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THE
INDUSTRIAL ARTS INDEX

SECOND TWO-YEAR CUMULATION
[NINTH ANNUAL VOLUME]

1920—1921

SUBJECT INDEX TO A SELECTED LIST OF ENGINEERING, TRADE AND BUSINESS PERIODICALS, BOOKS AND PAMPHLETS

WITH A LIST OF IMPORTANT TECHNICAL SOCIETIES

EDITED BY
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PREFACE

In accordance with the plan of cumulation adopted two years ago, the two volumes of the Industrial Arts Index, covering the years 1920 and 1921, have been combined in one alphabet and published as number ten of volume nine. It includes all the references appearing in the Industrial Arts Index since January 1920. It supplants, therefore, the 1920 annual volume as well as all the current numbers for 1921. The list of periodicals indexed is given on following pages. The periodicals recently added and not therefore indexed thru the entire two-year period are indicated by an asterisk. With the vast amount of new technical literature to be indexed it seemed unwise to go back even for the period of a year in order to index all the periodicals completely. New technical and business books have been included in the same alphabet with the periodical references, this feature having been begun in the middle of 1920. Various bibliographies from other sources than the magazines regularly indexed will also be found under their proper subject headings.

The members of the staff who are responsible for this volume include besides those mentioned on the title page, Miss May Carpenter, who has given faithful and intelligent service to the Index almost from its beginning; Miss Elsie Schonholtz, who has read the page proof for this volume; Miss Bella Traum, Mrs. Marion Scherr and Miss Marguerite Klosset, who tho recent additions to the staff, have carried on the monotonous details with patience and efficiency.

M. E. P.

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Technical Societies

The following list is compiled by Marian Lord of the Index staff from notices found in the periodicals indexed in the Industrial Arts Index for 1921.

Aerial league of America
Sec. Maj. R. Sutton, 280 Madison Ave., New York

Aerial league of the world
Sec. 280 Madison Av., New York

Aero club of America
Sec. Augustus Post, 11 East 38th St., New York
Annual meeting, New York, Nov. 14, '21
Annual meeting, New York, Nov. 13, '22
A calendar of events under the auspices of the club appears in each issue of the Aerial Age Weekly

Aeronautical chamber of commerce of America
Sec. 501 Fifth Ave., New York
This organization partly succeeds the Manufacturers' aircraft association in that it will collect and disseminate information regarding aeronautical activities, and will publish the Aircraft Year Book

Aeronautical society of America
Amalgamated with the Society of automotive engineers

Alloys research association
Chairman, Bd. of Managers, Alfred D. Flinn, Engineering Foundation, 29 W. 39th St., New York

American association for the advancement of science
Sec. Dr. Burton E. Livingston, Johns Hopkins University, Baltimore
Meeting, Toronto, Dec. 27-31, '21

American association of advertising agencies
Executive Sec. James O'Shaughnessy, Metropolitan Tower, New York
Annual convention, Philadelphia, Oct. 10-12, '21

American association of engineers
Sec. C. E. Drayer, 63 East Adams St., Chicago
Annual convention, Buffalo, May 9-11, '21

American association of operating engineers
Sec. H. C. Bristol, Tallassee Power Co., Tallassee, Ala.
Organization of southern electric light and power plant engineers

American association of petroleum geologists
Sec.-Treas. Charles E. Decker, Norman, Okla.
Annual meeting, Tulsa, Okla., March 17-19, '21

American association of port authorities
Sec. M. P. Fennell, Jr., Montreal, Can.
Convention, Seattle, Wash., Oct. 11-14, '21

American association of refrigeration
Sec. 5707 West Lake St., Chicago
Annual meeting, Washington, D.C., Mar. 25-26, '21

American association of state highway officials
Sec. Charles M. Upham, Raleigh, N.C.
Annual meeting, Omaha, Neb., Dec. 5-8, '21

American association of textile chemists and colorists
Sec. Walter E. Hadley, Clark Thread Co., Newark, N.J.
Organization meeting, Boston, Mass., Nov. 3, '21

American association of woolen & worsted manufacturers
Sec. J. J. Nevins, 45 E. 17th St., New York
Annual meeting, Waldorf-Astoria, New York, Dec. 7, '21

American automobile association
Sec. John N. Brooks, Torrington, Conn.

American bankers' association
Sec. Wm. B. Fitzwilson, 5 Nassau St., New York
Annual convention, Los Angeles, Calif., Oct. 4-7, '21

American boiler manufacturers' association
Sec.-Treas. H. N. Covell, c/o Lidgerwood Mfg. Co., Brooklyn
Winter meeting, Hollenden hotel, Cleveland, O., Feb. 22, '21
Annual convention, Bedford Springs, Pa., June 20-22, '21

American building exposition
Asst. Mgr. R. G. Collier, 1305 Schofield Bldg., Cleveland, O.
Exposition, Cleveland auditorium, Cleveland, Jan. 4-14, '22

American ceramic society
Sec. Ross C. Purdy, Ohio State University, Columbus, Ohio
Annual meeting, Deschler hotel, Columbus, Ohio, Feb. 21-24, '21
Summer meeting, Canton, O., July 25-27, '21
Annual meeting, St. Louis, Mo., Feb. 27-Mar. 2, '22

American chemical society
Sec. Charles L. Parsons, 1709 G St., N. W., Washington, D.C.
61st meeting, Rochester, N.Y., April 26-29, '21
National exposition of chemical industries, 8th Coast Artillery Armory, New York, Sept. 12 '21
Fall meeting, New York, Sept. 6-10, '21
Spring meeting, Birmingham, Ala., April '22

American civic association
Meeting, Chicago, Nov. 13-17, '21

American concrete institute
Sec. Harvey Whipple, 314 New Telegraph Bldg., Detroit
Convention, Auditorium hotel, Chicago, Feb. 14-16, '21
Convention, Cleveland, O., Feb. 13-16, '22

American concrete pipe association
Sec. G. E. Warren, 175 W. Jackson Blvd., Chicago
Convention, Chicago, Feb. 18-19, '21

American drop forge association
Sec. E. B. Horne, Rochester Foundry and Machine Co., Rochester, Mich.
Annual convention, held jointly with Drop forge supply association, Chicago, June 22-24, '21

American dyes institute
Sec. William R. Corwine, 132 W. 42d St., New York
Annual meeting, New York, Jan. 21, '21

American electric railway accountants' association
Sec.-Treas. F. J. Davis, Public Service Railway, Newark, N.J.
Annual convention, Atlantic City, Oct. 3-5, '21

American electric railway association
Sec. J. W. Welsh, 8 W. 40th St., New York
Annual convention, Atlantic City, N.J., Oct. 3-7, '21
Midyear conference, Indianapolis, Ind., Feb. 28, '22

American electrochemical society
Sec. A. D. Spillman (Acting Sec.), Lehigh University, Bethlehem, Pa.
Spring meeting, Hotel Chalfonte, Atlantic City, April 21-23, '21
Fall meeting, Lake Placid, N.Y., Sept. 29-Oct. 1, '21
Spring meeting, Baltimore, Md., April '22

American electro-platers' society
Sec.-Treas. J. E. Sterling, 473 10th Ave., Long Island City, N.Y.
Convention, Indianapolis, June 29-July 2, '21
Convention, Cincinnati, O., June '22

American engineering council
See Federated American engineering societies

American engineering standards committee
Sec. P. G. Agnew, 29 W. 39th St., New York

American face brick association
Sec. R. D. T. Hollowell, 110 S. Dearborn St., Chicago
Annual convention, White Sulphur Springs, W.Va., Nov. 30-Dec. 2, '21

American federation of arts
Sec. Miss Leila Mechlin, 1741 New York Ave., Washington, D.C.
Annual convention, Washington, D.C., May 18-21, '21

American foundrymen's association
Sec.-Treas. C. E. Hoyt, Marquette Bldg., Chicago
Annual convention, Cleveland Public Hall, Cleveland, O., May 22-29, '22

American gas association
Sec.-Manager. Oscar H. Fogg, 130 E. 15th St., New York
Annual convention, Chicago, Nov. 7-12, '21

American gear manufacturers' association
Sec. Frank D. Hamlin, c/o Earl Gear & Machine Co., Philadelphia
Annual meeting, Sinton hotel, Cincinnati, O., April 27-30, '21
Semi-annual meeting, Rochester, N.Y., Oct. 13-15, '21

American institute of accountants
Sec. A. P. Richardson, 135 Cedar St., New York
Annual meeting, New Washington hotel, Washington, D.C., Sept. 20-21, '21

American institute of architects
Sec. W. Stanley Parker, 120 Boylston St., Boston
Convention, Washington, D.C., May 11-13, '21

American institute of chemical engineers
Sec. John C. Olsen, Brooklyn Polytechnic Institute, Brooklyn, N.Y.
Semi-annual meeting, Detroit, Mich., June 20-24, '21
Annual meeting, Baltimore, Md., Dec. 6-9, '21

American institute of consulting engineers
Sec. F. A. Molitor, 35 Nassau St., New York
Annual meeting, Engineers' Club, New York, Jan. 16, '22

American institute of electrical engineers
Sec. F. L. Hutchinson, 33 W. 39th St., New York
Midwinter convention, United Engineering Societies Bldg., New York, Feb. 16-18, '21
Annual meeting, New York, May '21
Annual convention jointly with the Pacific Coast convention, Salt Lake City, Utah, June 20-25, '21
Midwinter convention, United Engineering Societies Bldg., New York, Feb. 15-17, '22

American institute of metals
Now a division of the American institute of mining and metallurgical engineers

American institute of mining and metallurgical engineers
Sec. Frederick F. Sharpless, 29 W. 39th St., New York
Spring meeting, New York, Feb. 14-17, '21
Semi-centennial anniversary, Wilkes-Barre, Pa., Sept. 12-15, '21
Annual meeting, United Engineering Societies Bldg., Feb. 20-24, '22

American institute of weights and measures
Sec. C. C. Stutz, 115 Broadway, New York
Annual meeting, United Engineering Societies Bldg., New York, Dec. 9, '21

American iron and steel institute
Sec. H. H. Cook, (Acting Sec.) 61 Broadway, New York
Annual meeting, Hotel Commodore, New York, May 27, '21
Meeting, New York, Nov. 18, '21
Annual meeting, New York, May '22

American leather chemists' association
Sec. H. C. Reed, 22 E. 16th St., New York
Annual meeting, Ambassador hotel, Atlantic City, June 9-11, '21

American manufacturers' export association
Sec. A. W. Willmann, 160 Broadway, New York
Annual convention, Waldorf-Astoria hotel, New York, Oct. 5-6, '21

American metric association
Sec. Howard Richards, Jr., 156 5th Av., New York

American mining congress
Sec. James F. Callbreath, Munsey Bldg., Washington, D.C.
Annual convention, Coliseum, Chicago, Oct. 17-22, '21

American national retail jewelers association
Sec. A. W. Anderson, Neenah, Wis.

American newspaper publishers association
Sec. John S. Bryan, c/o Richmond News Leader, Richmond, Va.
Annual meeting, Waldorf Astoria, New York, April 27-29, '21

American oil chemists' society (formerly Society of cotton products analysts)
Sec.-Treas. Thomas B. Caldwell, Law & Co., Wilmington, N.C.
Annual meeting, Congress hotel, Chicago, May 16-17, '21

American order of steam engineers
Sec. Andrew Lauterbach, 4726 North Warnock St., Philadelphia
Annual convention, Allentown, Pa., June 6-11, '21
Annual convention, Philadelphia, Pa., June '22

American paper and pulp association
Sec.-Treas. Dr. Hugh P. Baker, 18 E. 41st St., New York
Annual meeting, Waldorf-Astoria, New York, April 11-15, '21

American petroleum institute
Sec. R. L. Welch, 17 W. 44th St., New York
Annual meeting, Chicago, Dec. 6-8, '21

American physical society
Sec. D. C. Miller, Case School of Applied Science, Cleveland, O.
Meeting, New York, Feb. 25-26, '21
Meeting, Chicago, Nov. 25-26, '21

American public health association
Sec. A. W. Hedrick, 169 Massachusetts Ave., Boston
Semi-centennial exhibition, New York, Nov. 13-18, '21

American radio relay league
Dir. N. E. Wunderlich, 4533 N. Sawyer Ave., Chicago
First National radio exposition, Broadway Armory, 5075 Broadway, Chicago, Aug. 30-Sept. 3, '21

American railway association
Sec. J. E. Fairbanks, 75 Church St., New York
Annual meeting, Waldorf-Astoria hotel, New York, Nov. 16, '21
Annual meeting, New York, Nov. '22
A complete list of the various divisions and sections of the American railway association, and also of all the other important railway associations, with convention dates and secretaries, is to be found in the first number of each month of the Railway Age.

American railway bridge and building association
Sec. C. A. Lichty, C. & N. W. Railway, 319 N. Waller Ave., Chicago
Convention, Cincinnati, Ohio, Oct. 17-19, '22

American railway development association
Sec. J. F. Jackson, Central of Georgia, Savannah, Ga.
Annual meeting, Denver, Colo., May 10-12, '22

American railway engineering association
Sec. E. H. Fritch, 431 S. Dearborn St., Chicago
Convention, Chicago, March 14-16, '22

American railway tool foremens' association
Sec. R. D. Fletcher, 1145 East Marquette Road, Chicago

American road builders' association
Sec. E. L. Powers, care of Good Roads, 11 Waverly Place, New York
Annual convention, Coliseum, Chicago, Feb. 9-12, '21
Annual meeting, New York, Nov. 15, '21
Annual convention, Chicago, Jan. 17-20, '22

American short line railroad association
Sec. T. F. Whittelsey, Union Trust Bldg., Washington, D.C.

American society for municipal improvements
Sec. Charles C. Brown, Dept. Public Works, St. Petersburg, Fla.
Annual convention, Southern hotel, Baltimore, Md., Oct. 24-28, '21
Annual convention, Cleveland, Ohio, Oct. '22

American society for steel treating (formerly American steel treaters' society)
Sec. W. H. Eisenman, 208 N. Wabash Ave., Chicago
Annual convention, Indianapolis, Sept. 19-24, '21
Annual convention, Detroit, Mich., Sept. 25-30, '22

American society for testing materials
Sec. C. L. Warwick, University of Pennsylvania, Philadelphia
Annual meeting, New Monterey hotel, Asbury Park, N.J., June 20-24, '21
Annual meeting, Atlantic City, N.J., June '22

American society of agricultural engineers
Sec. Raymond Olney, St. Joseph, Mich.
Annual meeting, Auditorium hotel, Chicago, Dec. 27-29, '21

American society of civil engineers
Sec. Elbert M. Chandler, United Engineering Societies Bldg., 33 W. 39th St., New York
Annual meeting, United Engineering Societies Bldg., New York, Jan. 19-20, '21
Annual convention, Houston, Texas, April 27, '21
Annual meeting, United Engineering Societies Bldg., Jan. 18-19, '22

American society of heating and ventilating engineers
Sec. Casin W. Obert, 29 W. 39th St., New York
Annual meeting, New York and Philadelphia, Jan. 25-28, '21
Semi-annual meeting, Cleveland, June 14-16, '21
Annual meeting, 29 W. 39th St., New York, Jan. 24-26, '22

American society of lubricating engineers
Sec. J. L. Overholt, 30 No. Michigan Ave., Chicago
Annual convention, Chicago, Oct 12-13. '21

American society of marine designers (formerly American society of marine draftsmen)
Sec. B. G. Barnes, 47 Saville Av., Quincy, Mass.
Annual meeting, New York, Nov. 17-19, '21

American society of mechanical engineers
Sec. Calvin W. Rice, 29 W. 39th St., New York
Spring meeting, Chicago, May 23-26, '21
Annual meeting, New York, Dec. 5-8, '21
Spring meeting, Atlanta, Ga., May 8-11, '22

American society of naval engineers
Sec. Navy department, Washington, D.C.
Sec. Commander J. S. Evans, Bureau of engineering, Navy Dept. Washington, D.C.
Annual meeting, Washington, D.C., Oct. 4, '21

American society of refrigerating engineers
Sec. William H. Ross, 154 Nassau St., New York
Meeting, Chicago, May 25-27, '21
Meeting, New York, Dec. 5-7, '21

American society of safety engineers
Sec. G. S. Wood, 29 W. 39th St., New York
Meeting, New York, Feb. 18, '21
Annual meeting, Cafe Boulevard, New York, Jan. 26, '22

American society of sanitary engineering
Sec. Aden E. Smith, Columbus, O.
Convention, Hotel Gibson, Cincinnati, Sept. 6-8, '21

American specification institute
Sec. Gardner C. Coughlen, 1144 American Bond & Mortgage Bldg., Chicago
Annual fall conference, Chicago, Dec. 9, '21

American statistical association
Sec. 222 Charles River Road, Cambridge, Mass.

American steel treaters' society
Now the American society for steel treating

American supply and machinery manufacturers' association
Sec. F. D. Mitchell, 4106 Woolworth Bldg., New York
Triple convention with the National supply and machinery dealers' association and the Southern supply and machinery dealers' association, Marlborough-Blenheim, Atlantic City, N.J., May 16-18, '21

American valuation association
Sec. Stanley Williamson, Linde Air Products Co., 30 E. 42d St., New York
Organization meeting, New York, June 16, '21

American warehousemen's association
Sec. C. L. Criss, 1110 Bessemer Bldg., Pittsburgh, Pa.

American water works association
Sec. John M. Diven, 153 W. 71st St., New York
Annual convention, Hollenden hotel, Cleveland, June 6, '21
Annual convention, Philadelphia, May 15-19, '22

American welding society
Sec. N. M. Kelly, 29 W. 39th St., New York
Annual meeting, United Engineering Societies Bldg., New York, April 28, '21
Annual meeting, United Engineering Societies Bldg., New York, April '22

American wood preservers' association
Sec. G. M. Hunt, Forest Products Laboratory, Madison, Wis.
Annual meeting, San Francisco, Jan. 25-27, '21
Annual meeting, Chicago, Jan. '22

American zinc institute
Sec. Stephen S. Tuthill, 27 Cedar St., New York
Annual meeting, Hotel Statler, St. Louis, May 9-10, '21

Asphalt association
Sec. J. E. Pennybacker, 23 W. 43d St., New York
Annual convention, New York, April 13, '21
Prepares specifications for asphalt roads

Associated advertising clubs of the world
Sec. P. S. Florea, 110 W. 40th St., New York
Annual convention, Atlanta, Ga., June 12-16, '21
Annual international convention, Milwaukee, Wis., June 11-15, '22

Associated business papers, Inc.
Sec. W. W. Macon, % Iron Age, 239 W. 39th St., New York
Annual meeting, Chicago, Oct. 24-26, '21

Associated general contractors of America
Sec. 111 West Washington St., Chicago
National conference, Hotel Grunewald, New Orleans, La., Jan. 25-27, '21
National conference, Cleveland, O., Jan. 17-19, '22

Associated metal lath manufacturers
Commissioner, Wharton Clay, Edison Bldg., Chicago

Association of Chinese and American engineers
Sec. P. Y. Tsai. c/o The Chuchow-Chinchow Railway, Peking

Association of collegiate schools of architecture
Sec. Clarence A. Martin, Cornell University, Ithaca, N.Y.
Annual meeting, Washington, D.C., May 9-11, '21

Association of Edison illuminating companies
Sec. P. S. Miller, Electrical Testing Laboratories, East End Ave. & 80th St., New York
Annual meeting, Spring Lake Beach, N.J., Sept. 12-15, '21

Association of employees' clubs
Sec. J. Marshall, Alexander Hamilton Inst., 13 Astor Place, New York
Organization meeting, Times Bldg., New York, May 25, '21

Association of iron and steel electrical engineers
Sec. John F. Kelly, Empire Bldg., Pittsburgh
Meeting with American institute of electrical engineers, Pittsburgh, April 16, '21
Annual convention, Hotel La Salle, Chicago, Sept. 19-24, '21
Annual convention, Cleveland auditorium, Cleveland, O., Sept. 11-15, '22

Association of national advertisers
Sec.-Treas. John Sullivan, 15 E. 26th St., New York
Semi-annual meeting, Atlantic City, May 12-14, '21
Annual meeting, Lakewood, N.J., Dec. '21
Semi-annual meeting, Chicago, May 10, '22

Association of official agricultural chemists
Sec.-Treas. R. W. Balcom, Box 290, Pennsylvania Avenue Station, Washington, D.C.

Association of railway electrical engineers
Sec.-Treas. Joseph A. Andreucetti, Room 413, C. & N. W. Terminal Station, Chicago

Association of railway executives
Chairman. Thomas DeWitt Cuyler, 61 Broadway, New York

Atlantic deep waterways association
Sec. Real Estate Trust Bldg., Philadelphia
Meeting, Savannah, Ga., Nov. 15-18, '21

Aviation clubs
A list of aviation clubs is published from time to time in Aviation

Bakers and millers technical club
Sec. C. A. Paesch, 958 Montana St., Chicago

Boston society of civil engineers
Sec. Richard K. Hale, (Acting Sec.) 715 Tremont Temple, Boston

British iron and steel institute
Sec. George C. Lloyd, 28 Victoria St., London, S.W. 1

Building officials' conference
Sec.-Treas. F. W. Lumis, Springfield, Mass.
Annual meeting, Cleveland, Ohio, April 24-30, '21
Annual meeting, Cleveland, Massillon, and Youngstown, Ohio, April 27-30, '22

Canadian association of stationary engineers
Sec.-Treas. Louis J. Ellis, Hamilton, Ont.
Annual convention, Ottawa, Ont., June 28-30, '21
Annual convention, Kitchener, Ont., June '22

Canadian deep waterways and power association
Sec.-Treas. Maj. Alex. C. Lewis, Toronto
Annual convention, Hamilton, Ont., Nov. 1-2, '21

Canadian electrical association
Sec.-Treas. Eugene Vinet, Shawinigan Water & Power Co., Montreal, Canada.
Annual convention, Quebec City, June 15-17, '21

Canadian good roads association
Sec. George A. McNamee, 909 New Birks Bldg., Montreal, Que.
Annual convention, Halifax, Canada, May 10-12, '21

Canadian institute of chemistry
Sec.-Treas. Harold J. Roast, 393 Guy St., Montreal, Que.
Annual meeting, Montreal, Aug. 29-Sept. 3, '21

Canadian institute of mining and metallurgy
Sec.-Treas. G. C. Mackenzie, Montreal, Quebec
Annual meeting, Ottawa, Ont., March 2-4, '21

Chamber of commerce of the United States
Sec. D. A. Skinner, Mills Bldg., Washington, D.C.
Annual meeting, Hotel Traymore, Atlantic City, N.J., April 27-29, '21

Chemical foundation
Sec. R. Buffum, 81 Fulton St., New York

City managers' association
Sec. H. H. Freeman, Kalamazoo, Mich.
Annual meeting, Chicago, Nov. 14-16, '21

City planning institute
Sec. Flavel Shurtleff, 19 Congress St., Boston, Mass.

Coal mining institute of America
Sec. H. D. Mason, Jr., Chamber of Commerce Bldg., Pittsburgh, Pa.
Annual meeting, Pittsburgh, Pa., Dec. 7-9, '21

Common brick manufacturers association of America
Sec. Ralph P. Stoddard, Schofield Bldg., Cleveland, O.
Convention, New York, Jan. 31-Feb. 4, '21
Convention, Hotel Statler, St. Louis, Mo., Jan. 30-Feb. 1, '22

Compressed air society
Sec. C. H. Rohrbach, 50 Church St., New York
Annual meeting, New York, Dec. '21

Compressed gas manufacturers' association
Sec. John H. Hayes, 23 E. 26th St., New York
Annual meeting, Hotel Astor, New York, Jan. 17, '21
Annual meeting, United Engineering Societies Bldg., New York, Jan. 16, '22

Concrete products association
Sec. J. E. Montgomery, Chicago
Annual convention, Auditorium hotel, Chicago, Mar. 28-30, '21

Conference on highway engineering and highway transport education
Annual conference, University of Michigan, Ann Arbor, Mich., Feb. 12-17, '22

Conference of state sanitary engineers
Sec.-Treas. Theodore Horton, New York State Department of Health, Albany
Annual conference, Boston, June 1-2, '21

Copper and brass research association
Sec. W. S. Eckert, 25 Broadway, New York
Meeting, New York, Dec. 6, '21

Cooperative league of America
Sec. J. F. McNamee, Editor, Brotherhood of Locomotive Firemen and Enginemen's Magazine, Cleveland, O.

Cooperative society of America
Sec. 1554 Ogden Ave., Chicago

Cost association of the paper industry
Sec. T. J. Burke, 18 E. 41st St., New York
Annual meeting, Waldorf-Astoria hotel, New York, April 13, '21

Direct mail advertising association
Sec. Louis Balsam, Lewis Manufacturing Company, Walpole, Mass.
International convention and exposition, Springfield, Mass., Oct. 25-27, '21

Drop forge supply association
Sec.-Treas. A. W. Wurster, c/o Heppenstall Forge & Knife Co., Philadelphia, Pa.
Annual convention, held jointly with American drop forge association, Chicago, June 22-24, '21

Electric associations
A complete directory of electrical associations with convention dates and secretaries is to be found in the first issue of each month of the Electrical World

Electrical manufacturers' council
Sec. Frederick Nicholas, 522 Fifth Ave., New York

Electrical safety conference
Sec. Dana Pierce, 25 City Hall Place, New York

Electrical supply jobbers' association
Sec. Franklin Overbagh, 411 South Clinton St., Chicago

Engineering advertisers' association
Sec. D. T. Eastman, 208 S. La Salle St., Chicago
Annual meeting, Chicago, March 8, '21

Engineering foundation
Sec. Alfred D. Flinn, 29 W. 39th St., New York

Engineering institute of Canada
Sec. Fraser S. Keith, 176 Mansfield St., Montreal, Quebec
Annual meeting, King Edward hotel, Toronto, Feb. 1-3, '21

Engineering society of western Pennsylvania
Sec. Kenneth F. Treschow, 568 Union Arcade Bldg., Pittsburgh, Pa.

Engineers' club of Philadelphia
Sec. H. E. Hopkins, 1317 Spruce St., Philadelphia

Export publishers' association
Sec. R. M. Dodson, editor of Pacific Ports, Central Building, Seattle, Wash.

Federal highway council
Sec. H. G. Shirley, Washington, D.C.

Federated American engineering societies
Sec. Lawrence W. Wallace, McLachlen Bldg., Washington, D.C.
Meeting of American engineering council, Syracuse, N.Y., Feb. 14, '21
Annual meeting, Washington, D.C., Jan. 5-6, '22

Federated engineers' development corporation
Sec. 154 Ogden Av., Jersey City, N.J.
Aim is to advise about and sponsor new inventions

Franklin institute
Sec. R. B. Owens, Franklin Institute, Philadelphia, Pa.

Friction drive and engineering society
Sec.-Treas. C. W. Kelsey, 817 West End Av., New York
Meeting, Indianapolis, Ind., Nov. 3, '21

Gas associations
A list of the principal gas associations, with officers and place and date of annual meeting is published regularly in the Gas Age

Geological society of America
Sec. Edmund O. Hovey, American Museum of Natural History, New York
Annual meeting, Amherst, Mass., Dec. 28-30, '21

Governmental research conference
Sec. Dr. L. D. Upson, 542 Griswold St., Detroit, Mich.
Meeting, Asheville, N.C., June 2-4, '21

Great Lakes protective association
Sec. George A. Marr, Rockefeller Bldg., Cleveland, O.
Annual meeting, Detroit, Mich., Jan. 21, '21

Heating and piping contractors national association
Sec. Henry B. Gombers, 50 Union Square, New York
Annual meeting, Boston Mass., May 30-June 2, '21

Hydraulic society
Sec. C. H. Rohrbach, 50 Church St., New York

Illuminating engineering society
Sec. Clarence L. Law, Irving Place and 15th St., New York
Annual convention, Rochester, N.Y., Sept. 26-30, '21

Industrial cost association
Sec. A. A. Alles, Jr., 1501 People's Bank Building, Pittsburgh
National industrial cost conference, East Aurora, N.Y., May 26-28, '21

Industrial relations associations of America
(formerly National association of employment managers)
Sec. E. A. Shaw (Acting Sec.), 671 Broadway, Newark, N.J.
Annual convention, Waldorf-Astoria hotel, New York, Nov. 1-4, '21

Institute for government research
Sec. James F. Curtis, 818 Connecticut Ave., N.W., Washington, D.C.
An association of citizens for cooperating with public officials in the scientific study of government

Institute of radio engineers
Sec. A. N. Goldsmith, College of the City of New York, New York
Meeting, New York, Feb. 2, '21

International association of fire engineers
Sec. James T. Mulcahey, Yonkers, N.Y.
Directors' meeting, Atlanta, Ga., Mar. 30, '21

International association of municipal engineers
Sec. Clarence R. George, Houston, Tex.
Annual meeting, Colorado Springs, Colo., Sept. 6-9, '21

International association of printing house craftsmen
Sec. Louis M. Augustine, 38 White Ave., Hamilton, Md.
Annual convention, Coliseum, Chicago, July 25-30, '21
Convention, Boston, Mass., '22

International association of street cleaning officials
Sec. A. M. Anderson, 1340 Old Colony Bldg., Chicago
Annual conference, Hotel La Salle, Chicago, Aug. 10-12, '21

International bureau of weights and measures
Director, Charles E. Guillaume, St. Cloud, Seine-et-Oise, France

International chamber of commerce
Sec. Dr. Edward Dolleans (temporary sec.), University of Dijon, Dijon, France
1st annual meeting London, England, June 27-July 2, '21
Annual meeting, Rome, Italy, Sept. 18-25, '22

International commission on illumination
Asst. Sec. J. W. T. Walsh, National Physical Laboratory, Teddington, England
Meeting, Paris, Sept. '21

International electrochemical commission
General Sec. C. le Maistre, 28 Victoria St., Westminster, London, S.W., England
International body representing national electrical societies contributing to its support

International mining convention
Exec. Chairman. Henry M. Parks, Director. Oregon Bureau of Mines and Geology, Oregon Bldg., Portland, Ore.
Meeting, Portland, Ore., April 5-9, '21
Meeting, Nelson, B. C., June, '22

International railway association
Sec. L. Weissenbruch, 11 Rue de Louvian, Brussels, Belgium
9th congress, Rome, Italy, April 19-May 1, '22

International railway fuel association
Sec. J. G. Crawford, 702 E. 51st St., Chicago
Annual meeting, Hotel Sherman, Chicago, May, '21
Annual meeting, Chicago, May '22

International street and interurban railway congress
Sec. Dr. Arthur Ertel, Favoritenstrasse 9, Vienna
Organization meeting, Nuremberg, Nov. 19, '20
Meeting, Vienna, May 29-June 3 '21

International typographical union
Sec. J. W. Hays, 640-50 Newton Claypool Bldg., Indianapolis

International union of radio telegraphy
Corresponding sec. of American section, Augustus Trowbridge, 1150 Connecticut Ave., Washington, D.C.

Inventors' league of the United States
Sec. George W. Whigelt, 114 Maiden Lane, New York

Investment bankers' association of America
Sec. Frederick R. Fenton, 38 S. Dearborn St., Chicago
Annual convention, New Orleans, Oct. 31-Nov. 5, '21
Annual convention, Los Angeles, Calif., '22

Lake carriers' association
Sec.-Treas. George A. Marr, Rockefeller Bldg., Cleveland, O.
Annual meeting, Detroit, Mich., Jan. 20, '21

League of the Southwest
Sec. F. E. Weymouth, U.S. Reclamation Service, Denver, Col.
Meeting, Riverside, Calif., Dec. 8-10, '21
An organization for studying the problems connected with the development of the Colorado river

Lighting fixture dealers' society of America
Sec. J. L. Wolf, Builders' Exchange, Cleveland, Ohio
Annual convention, Milwaukee, Wis., Jan. 30-Feb. 2, '22

Manufacturers' aircraft association
Sec. S. H. Russell, c/o Curtiss Airplane & Motor Corporation, Garden City, L.I.
The collecting and disseminating of information regarding aeronautical activities and the publishing of the Aircraft Year Book, formerly duties of this association, have been taken over by the Aeronautical chamber of commerce of America. The Manufacturers' aircraft association will continue to handle the administration of the cross license agreements covering airplane patents

Manufacturing chemists' association of the United States
Sec. John I. Tierney, Woodward Building, Washington, D.C.

Marine equipment association of America
Sec.-Treas. Robert B. Lea, c/o Sperry Gyroscope Co., 40 Flatbush Ave., Brooklyn, N.Y.
Annual meeting, New York, Nov. 16, '21

Master boiler makers' association
Sec. Harry D. Vought, 95 Liberty St., New York
Convention, Planters' hotel, St. Louis, Mo., May 23-26, '21
Convention, Hotel Sherman, Chicago, May 23-26, '22

Mineralogical society of America
Sec. H. P. Whitlock, American Museum of Natural History, New York
Annual meeting, Amherst, Mass., Dec. 28-30, '21

Mining and metallurgical society of America
Sec. B. Britton Gottsberger, 115 Broadway, New York

Mississippi valley association
Sec. John M. Gill, Kansas City, Mo.
Joint conference with National drainage congress, Harrington hotel, Washington, D.C., Jan. 19-20, '21
Aim of the society is to promote the Valley's foreign commerce

National advisory committee for aeronautics
Sec. S. W. Stratton, 2722 Navy Bldg., 17th & B Sts., N.W., Washington, D.C.

National amateur wireless association
Sec. H. L. Welker, 326 Broadway, New York

National association of commercial organization secretaries
Pres. F. D. E. Babcock, Worcester, Mass.
Meeting, New Orleans, Oct. 24-26, '21

National association of cost accountants
Sec. Stuart C. McLeod, 233 Broadway, New York
Annual convention, Cleveland hotel, Cleveland, Sept. 14-16, '21
Annual convention, Atlantic City, Sept. 23-28, '22

National association of cotton manufacturers
Sec. H. C. Meserve, 45 Milk St., Boston
Annual convention, Copley-Plaza hotel, Boston, April '21
Fall meeting, Copley Plaza, Boston, Nov. 2-7, '21

National association of credit men
Sec.-Treas. J. H. Tregoe, 41 Park Row, New York
Annual convention, St. Francis hotel, San Francisco, June 14-18, '21
Annual convention, Indianapolis, June 5, '22

National association of electrical contractors and dealers
Sec. Farquson Johnson, 15 W. 37th St., New York
Anniversary convention, Buffalo, N.Y., July 20, '21
Annual convention, Cincinnati, O., Oct. 11, '22

National association of engine and boat manufacturers
Sec. Ira Hand, 29 W. 39th St., New York
Annual meeting, New York, Feb. 23, '22

National association of manufacturers
Sec. George S. Boudinot, 30 Church St., New York
Spring meeting, Waldorf-Astoria hotel, New York, May 16-18, '21

National association of master plumbers
Sec. Chas. E. Dreier, 707 E. 47th St., Chicago
Annual convention, New Orleans, June 7-9, '21
Annual convention, Detroit, Mich., June 6-8, '22

National association of masters, mates, and pilots
Sec. M. D. Tenniswood, 308 Vine St., Camden, N.J.

National association of practical refrigerating engineers
Sec. Edward H. Fox, 5707 West Lake St., Chicago
Annual convention, Hotel Lorraine, Philadelphia, Nov. 30-Dec. 3, '21

National association of railway and utilities commissioners
Sec. James B. Walker, 49 Lafayette St., New York
Annual convention, Atlantic City, N.J., Oct. 10-15, '21
Annual convention, Detroit, Mich., Sept. 26, '22

National association of stationary engineers
Sec. Frederick W. Raven, 417 S. Dearborn St., Chicago
Annual convention, Evansville, Ind., Sept. 12-17, '21

National automobile chamber of commerce
Sec. A. J. Brosseau, International Motor Company, 25 Broadway, New York
Annual meeting, New York, Oct. '21

National civic federation
Sec. D. L. Tease, 1 Madison Ave., New York
Annual meeting, Hotel Astor, New York, Feb. 14-16, '21
Annual meeting, Hotel Astor, New York, Jan. 30-31, '22

National coal association
Sec. W. B. Reed, Commercial National Bank Bldg., Washington, D.C.
Annual convention, White Sulphur Springs, W. Va., May 18-20, '21

National concrete stave silo association
Sec. W. G. Kaiser, 111 W. Washington St., Chicago
Annual convention, Chicago, Dec. 6-8, '21

National conference on city planning
Sec. Flavel Shurtleff, 19 Congress St., Boston, Mass.
Annual meeting, William Penn hotel, Pittsburgh, Pa., May 9-11, '21

National conference on highway traffic regulations
Sec.-Treas. D. R. Faries, Automobile Club of Southern California, 1344 South Figueroa St., Los Angeles, Cal.
Meeting, Washington, Jan. 10, '21

National cooperative convention. See Cooperative league of America

National council of American importers and traders
Sec. Franklin Van Leer, jr., 949 Broadway, New York
Meeting, Hotel Pennsylvania, New York, May 6, '21

National council of lighting fixture manufacturers
Sec. Charles H. Hofrichter, 231-233 Gordon Square Bldg., Cleveland
Annual convention, Elmwood Music Hall, Buffalo, N.Y., Feb. 14-19, '21
Midsummer meeting, West Baden, Md., July 6-8, '21
Annual convention, Auditorium, Milwaukee, Jan. 30-Feb. 4, '22

National crushed stone association
Sec. A. P. Sandles, 405 Hartman Bldg., Columbus, Ohio

National district heating association
Sec. D. L. Gaskill, Greenville, O.
Annual convention, Breakers hotel, Cedar Point, Ohio, June 22-24, '21

National drainage congress
Joint conference with Mississippi valley association, Harrington hotel, Washington, D.C., Jan. 19-20, '21
Annual meeting, St. Paul, Sept. 22-24, '21
Annual meeting, Kansas City, '22

National editorial association
Sec. George Schlosser, c/o Republican, Wessington Springs, So. Dakota
Annual convention, Birmingham, Ala., Mar. 5, '21

National electric light association
Executive Manager. M. H. Aylesworth, 29 W. 39th St., New York
Annual convention of the Pacific coast section, Del Monte, Calif., May 25-27, '21
Annual convention, Drake hotel, Chicago, May 31-June 3, '21

National electrical credit association
Sec. Frederick P. Vose, 1350 Marquette Bldg., Chicago
Meeting, Richmond, Va., May 19-20, '21

National federation of construction industries
Sec. John C. Frazee, Drexel Bldg., Philadelphia
Annual meeting, Hotel Sherman, Chicago, March 24-25, '20

National federation of export managers
Chairman. Oren D. Gallup, Simond Mfg. Co., Fitchburg, Mass.
Organization meeting, New York, Feb. 17, '21
Annual meeting, Hotel Pennsylvania, New York, March 7, '21

National fertilizer association
Sec. John D. Toll, 1010 Arch St., Philadelphia
Annual convention, Greenbrier hotel, White Sulphur Springs, W.Va., June 20-25, '21

National fire protective association
Sec. Franklin H. Wentworth, 87 Milk St., Boston
Annual convention, San Francisco, June 14-16, '21
Annual convention, Atlantic City, May 9-11, '22

National foreign trade council
Sec. O. K. Davis, Hanover Sq., New York
Annual convention, Cleveland O., May 4-7, '21
Annual convention, Philadelphia, May 10-12, '22

National founders' association
Sec. J. M. Taylor, 29 S. La Salle St., Chicago
Annual meeting, Hotel Astor, New York, Nov. 16-17, '21

National hardware association of the United States
Sec. T. James Fernley, 120 High St., Boston
Annual convention, Marlborough-Blenheim hotel, Atlantic City, N.J., Oct. 17-22, '21

National highway traffic association
Sec. Elmer Thompson, Automobile club of America, 247 W. 54th St., New York
Annual convention, Detroit Athletic Club, Detroit, April 29, '21

National housing association
Sec. Lawrence Veiller, 105 East 22nd St., New York

National implement and vehicle association
Sec. Henry J. Sameit, 72 W. Adams St., Chicago
Meeting, Chicago, Oct. 12-14, '21

National industrial traffic league
Sec. J. H. Beels, 111 W. Washington St., Chicago
Meeting, Cleveland, O., May 25-26, '21
Annual meeting, Hotel Sherman, Chicago, Nov. 10-11, '21
Annual meeting, New York, Nov. 15-16, '22

National institute of inventors
Sec. R. Nerenstone, 118 Fulton St., New York

National lime association
Sec. Mather Bldg., Washington, D.C.
Annual convention, Hotel Commodore, June 15-17, '21

National machine-tool builders' association
Sec. H. W. Dunbar, Norton Co., Worcester, Mass.
Spring convention, Hotel Traymore, Atlantic City, N.J., May 19-20, '21
Fall meeting, Hotel Astor, New York, Oct. 18-20, '21
Spring convention, Atlantic City, '22

National marine league of the United States of America
Sec. J. H. Kitchin, 268 Pearl St., New York
Annual meeting, New York, Jan. '22
Publishes for free distribution articles on American merchant marine problems

National merchant marine association
Sec. Munsey Bldg., Washington, D.C.
Annual convention, Washington, D.C., Jan. 20-21, '21

National metal trades association
Sec. Homer D. Sayre, People's Gas Bldg., Chicago
Annual convention, Hotel Astor, New York, April 18-21, '21
Annual convention, New York, April 19-20, '22

National municipal league
Sec. Harold W. Dodds, 261 Broadway, New York
Annual meeting, Chicago, Nov. 16-18, '21
Annual meeting, Chicago, Nov. '22

National paper trade association
Sec. William Ridgeway, 41 Park Row, New York
Annual meeting, Waldorf-Astoria hotel, New York, April 13, '21

National paving brick manufacturers' association
Sec. Maurice B. Greenough, Engineers' Bldg., Cleveland, Ohio

National petroleum association
Sec. C. D. Chamberlain, Guard Bldg., Cleveland

National pipe and supplies association
Sec.-Treas. George D. McIlvaine, Pittsburgh, Pa.
Convention, Hollenden hotel, Cleveland, May 10-11, '21

National research council
Sec. Vernon Kellogg, 1701 Massachusetts Ave., Washington, D.C.

National rivers and harbors congress
Sec. S. A. Thompson, Colorado Bldg., Washington, D.C.

National safety council
Sec. W. E. Worth, 168 North Michigan Ave., Chicago
Annual safety congress, Boston, Sept., '21

National sand and gravel producers' association
Sec. E. Guy Sutton, Williamsport, Ind.

National sheet metal products association
Sec. D. C. Jones, 1016 Commerce Bldg., St. Paul, Minn.

National society for vocational education
Sec. Miss Clothilde Ware, 140 W. 42d St., New York
Annual convention, Kansas City, Mo., Jan. 5-7, '22

National structural steel society
Sec. C. J. McIntosh, c/o Federal Bridge & Structural Co., Waukesha, Wis.
Meeting. Massillon, O., Aug. '21

National supply and machinery dealers' association
Triple convention with the Southern supply and machinery dealers' association, and the American supply and machinery manufacturers' association, Marlborough-Blenheim, Atlantic City, May 16-18, '21

National warm air heating and ventilating association
Sec. Allen W. Williams, Columbia Bldg., Columbus, O.
Annual meeting, Cleveland, O., May 23-24, '21

National wholesale dry goods association
Sec. A. T. Roman, Cooper, Coate & Casey Dry Goods Co., Los Angeles, Cal.

Natural gas association of America
Sec.-Treas. William B. Way, 904-5 Oliver Bldg., Pittsburgh, Pa.
Annual convention, Pittsburgh, May 16-20, '21

New England foundrymen's association
Sec. Fred S. Stockwell, Barbour-Stockwell Co., Cambridge, Mass.
Annual meeting, Exchange Club, Boston, Mass., Jan. 12, '21

New England water works association
Sec. Frank J. Gifford, Supt. Water Works, Dedham, Mass.
Annual meeting, Copley Square hotel, Boston, Jan. 12, '21
Annual convention, Bridgeport, Conn., Sept. 13-16, '21

North central electric association
Sec. H. E. Young, 15 South Fifth St., Minneapolis, Minn.
Annual convention, Duluth, Minn., June 14-16, '21

Pacific logging congress
Sec.-Treas. George M. Cornwall, Portland, Ore.
Annual meeting, Palace hotel, San Francisco, Oct. 26-29, '21

Pan American chamber of commerce
Sec. 42 Broadway, New York

Periodical publishers' association of America
Sec. Phillips Wyman, 200 5th Av., New York

Personnel research federation
Sec. Alfred D. Flinn, 29 W. 39th St., New York
This society will collect research information and coordinate the research activities of about 250 organizations

Plumbers' associations
A list of the various state associations, with convention dates, will be found in the weekly numbers of Domestic Engineering

Portland cement association
Gen. Mgr. Wm. M. Kinney, 111 West Washington St., Chicago

Pressed metal association
Sec. Illuminating Bldg., Cleveland, O.
Convention, Youngstown, O., April 27-29, '21

Purchasing agents' association
Sec. W. A. Tubman, c-o Theodore Kundtz Co., Cleveland, O.
Annual meeting, Cleveland, O., Jan. 20, '21

Radio club of America
Sec. Renville H. McMann, 150 Nassau St., New York

Radio research association
Sec. B. Hoffman, 233 South Third St., Brooklyn, N.Y.

Railway associations
A complete list of the various divisions and sections of the American railway association, and also of all the other important railway associations, with convention dates and secretaries, is to be found in the first number of each month of the Railway Age

Rice leaders of the world association
Pres. Ellwood Rice, 225 Fifth Ave., New York

Rubber association of America
Sec. A. L. Viles, 52 Vanderbilt Ave., New York
Annual meeting, Waldorf-Astoria hotel, New York, Jan. 10, '21

Russian engineering society
Sec. A. Pazdzersky, 29 West 39th St., New York

Science service
Sec. Edwin E. Slosson, 530 W. 123d St., New York
An institution, comprised of the National academy of sciences, the American association for the advancement of science, and the National research council "for increasing the intelligence of the people in science by means of the journalistic press"

Smoke prevention association
Sec.-Treas. Frank A. Chambers,, 5449 Woodlawn Ave., Chicago
Annual convention, Hotel Statler, St. Louis, Mo., May 31-June 3, '21

Society for electrical development, Inc.
Sec. Theodore E. Burger, 522 Fifth Ave., New York
Annual meeting, New York, May 10, '21
Annual meeting, New York, May '22

Society for the promotion of engineering education
Sec. Dean F. L. Bishop, Univ. of Pittsburgh, Pittsburgh, Pa.
Annual convention, New Haven, Conn., June 28-July 1, '21

Society of automotive engineers
Sec. Coker F. Clarkson, 29 W. 39th St., New York
Annual meeting, New York, Jan. 11-13, '21
Semi-annual meeting, West Baden, Ind., May 24-28, '21
Annual meeting, United Engineering Societies Bldg., New York, Jan. 11-14, '22

Society of economic geologists
Sec. Prof. J. Volney Lewis, New Brunswick, N.J.
Annual meeting, Amherst, Mass., Dec. 28-30, '21

Society of gas lighting
Sec. George B. Ramsdell, 128 E. 15th St., New York

Society of industrial engineers
Sec. W. G. Sheehan, Detroit, Mich.
Convention, Milwaukee, April 27-29, '21
Fall convention, Springfield, Mass., Oct. 5-7, '21

Society of naval architects and marine engineers
Sec.-Treas. Daniel H. Cox, 29 W. 39th St., New York
General meeting, United Engineering Societies Bldg., New York, Nov. 17-18, '21

Southern gas association
Sec.-Treas. George H. Smith, Baltimore, Md.
Annual convention, Savannah, Ga., May 24, '21
Annual convention, Greenville, S.C., May 16, '22

Southern metal trades association
Sec. W. E. Dunn, Jr., Atlanta, Ga.
Convention, Battery Park hotel, Asheville, N.C., June 13-14, '21

Southern pine association
Sec. J. E. Rhodes, New Orleans, La.

Southern supply and machinery dealers' association
Sec.-Treas. Alvin M. Smith, Smith-Courtney Co., Richmond
Triple convention with the National supply and machinery dealers' association and the American supply and machinery manufacturers' association, Marlborough-Blenheim, Atlantic City, May 16-18, '21

Southwest water works association
Sec.-Treas. E. L. Fulkerson, Waco, Tex.
Meeting, Shirwin hotel, Oklahoma City, Okla., May 9-12, '21

Southwestern electrical and gas association
Sec. E. N. Willis, 403 Slaughter Bldg., Dallas, Texas
Annual convention, Galveston, Texas, May 18-21, '21

Southwestern society of engineers
Sec. C. E. Barlebaugh, 721 First National Bank Bldg., El Paso, Tex.

Stoker manufacturers' association
Sec. J. G. Worker, Phoenix Manufacturing Co., Eau Claire, Wis.
Annual meeting, Stockbridge, Mass., June 14-16, '21

Synthetic chemical manufacturers' association of the United States
Pres. Chas. H. Herty, 35 E. 41st St., New York
Organization meeting, Washington hotel, Washington, D.C., Oct. 28-29, '21

Taylor society
Sec. H. S. Person, 29 W. 39th St., New York
Meeting, Hotel Statler, Cleveland, May 19-21, '21
Fall meeting, New York, Dec. 1-3, '21
To promote the science and art of administration and of management

Technical association of the pulp and paper industry
Sec. Hugh P. Baker, 18 E. 41st. St., New York
Annual meeting, Waldorf-Astoria hotel, New York, April 12-19, '21

Telephone pioneers of America
Sec. R. H. Starrett, 195 Broadway, New York
10th anniversary celebration and annual meeting, Hotel Statler, St. Louis, Mo., Oct. 24-25, '21

Textile exhibitors' association
Sec. 5 Park Square, Boston
International textile exposition, Mechanics Bldg., Boston, Oct. 31-Nov. 5, '21

United engineering society
Sec. Alfred. D. Flinn, 29 W. 39th St., New York
Annual meeting, United Engineering Societies Bldg., New York, Jan. 26, '22

United States good roads association
Sec. J. A. Rountree, Birmingham, Ala.
Annual convention, Greensboro, N.C., April 18-23, '21

United States potters' association
Sec.-Treas. Charles F. Goodwin, East Liverpool, Ohio
Annual convention, Willard hotel, Washington, D.C., Dec. 5-10, '21

Water power league of America, Inc.
Sec.-Treas. Frederick L. Long, 114 Nassau St., New York
Annual meeting, New York, Jan. 18, '21
Conference, Waldorf-Astoria, New York, June 21-22, '21

Western association of electrical inspectors
Sec. William S. Boyd, 175 West Jackson Blvd., Chicago
Annual convention, Hotel Statler, Detroit, Mich., Jan 25-28, '21

Western society of engineers
Sec. E. S. Nethercut, 1736 Monadnock Bldg., Chicago
Meeting, Chicago, Mar. 28, '21

List of Periodicals Indexed

Administration—Administration. $5; single numbers 50c. Ronald Press Co., 20 Vesey St, New York.

A S R E J—A. S. R. E. Journal. $3. American Society of Refrigerating Engineers, 154 Nassau St, New York.

Aerial Age—Aerial Age Weekly. $4; single numbers 10c. Aerial Age Co., Inc., Madison Ave. & 40th St, New York.
Flying consolidated with Aerial Age Weekly beginning August 1, 1921.

Aeronautical J—Aëronautical Journal. £1 12s
* 6d; single numbers 2s 9d. Royal Aëronautical Society, 7, Albemarle St, Piccadilly, London, W. 1.

Am Arch—The American Architect and the Architectural Review. $6; single numbers 35c. Architectural & Building Press, Inc., 243 W 39th St, New York.

Am Cer Soc J—American Ceramic Society. Journal. $8; single numbers. 75c. American Ceramic Society, 211 Church St, Easton, Pa.

Am Chem Soc J—Journal of the American Chemical Society. $7.50. Charles L. Parsons, sec., 1709 G St, N.W., Washington, D.C.

Am Electrochem Soc Trans—American Electrochemical Society. Transactions. $3. American Electrochemical Society, Bethlehem, Pa.

Am Gas Assn—American Gas Association. Second annual convention, 1920. 5 sections. American Gas Association, Inc., 130 East 15th St, New York.

Am Gas Eng J. See Am Gas J

Am Gas J—American Gas Journal. $3; single numbers 10c. American Gas Light Journal, Inc., 150 Nassau St, New York.
Formerly American Gas Light Journal; American Gas Engineering Journal

Am Ind—American Industries. $1; single numbers 15c. National Manufacturers Co., 50 Church St, New York.

Am Inst Arch J—Journal of the American Institute of Architects. $5; single numbers 50c. Journal of the American Institute of Architects, 313 E 23d St, New York.

Am Inst E E J—Journal of the American Institute of Electrical Engineers. $10; single numbers $1. F. L. Hutchinson, sec., 33 W. 39th St, New York.
Formerly American Institute of Electrical Engineers. Proceedings

Am Inst E E Pro. See Am Inst E E J

Am Inst Min Bul. See Min & Met

Am J Sci—The American Journal of Science. $6; single numbers 50c. American Journal of Science, New Haven, Conn.

Am Lumberman—American Lumberman. $4; single numbers 25c. American Lumberman, Manhattan Bldg., 431 S Dearborn St, Chicago.
Not indexed since July 3, 1920.

Am Mach—American Machinist. $5; single numbers 25c. McGraw-Hill Co., Inc., 10th Av at 36th St, New York.

Am Soc C E Pro—Proceedings of the American Society of Civil Engineers. $8. American Society of Civil Engineers, 33 W 39th St, New York.

Am Soc Heat & V E J—Journal of the American Society of Heating and Ventilating Engineers. $3; single numbers 35c. American Society of Heating and Ventilating Engineers, 29 W 39th St, New York.

Am Soc M E J. See Mech Eng

Am Soc Refrigerating Eng J. See A S R E J

Am Soc T M Pro—American Society for Testing Materials. Proceedings. 2 parts, each $6. American Society for Testing Materials, 1315 Spruce St, Philadelphia.

Am Water Works Assn J—Journal of the American Water Works Association. $7; American Water Works Assn., Mount Royal and Guilford Avenues, Baltimore, Md.

Americas—The Americas. monthly, gratis. Na-
* tional City Bank of New York, 55 Wall St, New York.
Discontinued publication with the July 1921 issue.

Annalist—The Annalist. $5; single numbers
* 10c. New York Times Co., Times Square, New York.

Arch & Bldg—Architecture and Building. $3; single numbers 30c. William T. Comstock Co., 23 Warren St, New York.

Arch Forum—Architectural Forum. $6; single numbers 60c. Rogers and Manson Co., 142 Berkeley St, Boston 17, Mass.

Arch Rec—Architectural Record. $3; single numbers 35c. Architectural Record Co., 115 W 40th St, New York.

Automobile Eng—The Automobile Engineer.
* 30s; Canadian subs 25s 6d; single numbers 2s. 20, Tudor St, London E.C. 4.

Automotive Ind—Automotive Industries. $3; single numbers 35c. Class Journal Co., 239 W 39th St, New York.
Formerly Automobile

Aviation—Aviation and Aircraft Journal. $4; single numbers 15c. Gardner-Moffat Co., Inc., 225 4th Av, New York.

Blast F & Steel Pl—The Blast Furnace and Steel Plant. $2; single numbers 25c. Anderseh Co., Inc., Thaw Bldg., 108 Smithfield St, Pittsburgh, Pa.

Bldg Age—Building Age. $2; single numbers 25c. Building Age Publishing Corporation, 912-920 Broadway, New York.

Boston Soc C E J—Journal of the Boston Society of Civil Engineers. $4 (ten numbers); single numbers 50c. Boston Society of Civil Engineers, 715 Tremont Temple, Boston

Brass W—Brass World and Platers' Guide. $1;
* single numbers 15c. Brass World Pub. Co., 153 Waverly Pl, New York.

Brick & Clay Rec—Brick and Clay Record. $3;
* single numbers 25c. Industrial Publications, Inc., 407 S Dearborn St, Chicago.

Can Chem & Met—Canadian Chemistry and
* Metallurgy. $3; single numbers 40c. Westman Press, Ltd., 57 Queen St, W, Toronto, Canada.

Can Eng—The Canadian Engineer. $3; single numbers 10c. Monetary Times Printing Co. of Canada, Ltd., Church & Court Sts, Toronto, Ont.
Not indexed since it assumed newspaper form, May 26, 1921

Carnegie scholarship memoirs. See Iron & Steel Inst C S M

Chem Age—Chemical Age. $3; single numbers
* 50c. McCready Pub. Co., 118 E 28th St, New York.

Chem & Met Eng—Chemical and Metallurgical Engineering. $5; single numbers 25c. McGraw-Hill Co., Inc., 10th Av, at 36th St, New York.
Formerly Metallurgical and Chemical Engineering

Chem Soc J—Journal of the Chemical Society.
* £4. Gurney and Jackson, 33, Paternoster Row, London, E.C. 4.

* Indexed beginning January, 1921

Chimie & Ind—Chimie & Industrie. 110 fr; single numbers 10 fr. Société de Chimie Industrielle, 49, rue des Mathurins, Paris, France.

Coal Age—Coal Age. $3; single numbers 20c. McGraw-Hill Co., Inc., 10th Av at 36th St, New York.

Color Tr J—Color Trade Journal. $5; single numbers 50c. Color Trade Journal, Inc., 103 Park Av, New York.

Comm & Fin Chr—The Commercial & Financial Chronicle. $10; single numbers 25c. William B. Dana Co., 138 Front St, New York.

Concrete—Concrete. $3; Concrete-Cement Age Pub. Co., Telegraph Bldg., Detroit, Mich.
Formerly published as Concrete-Cement Age.

Deutsche Chem Gesell Ber—Berichte der * Deutschen Chemischen Gesellschaft. $7.50. R. Friedaender & Sohn, Karlstrasse 11, Berlin, N.W., Germany.

Dom Eng—Domestic Engineering. $2; single numbers 10c. Domestic Engineering Co., 1900 Prairie Av, Chicago.

Econ Geol—Economic Geology. $4; single numbers 65c. Economic Geology Pub. Co., 41 North Queen St, Lancaster, Pa.

Elec J—The Electric Journal. $2; single numbers 25c. The Electric Journal, 1205 Keenan Bldg., Pittsburgh, Pa.

Elec Ry J—Electric Railway Journal. $4; single numbers 20c. McGraw-Hill Co., Inc., 10th Av at 36th St, New York.

Elec R—Electrical Review and Industrial Engineer. $3; single numbers 20c. International Trade Press, Inc., 542 Monadnock Blk., Chicago.
Formerly Electrical Review and Western Electrician.

Elec R (Lond)—Electrical Review. £2 1s 6d; * Canadian subs £1 12s 6d; single numbers 6d. 4, Ludgate Hill, London, E.C. 4.

Elec W—Electrical World. $5; single numbers 25c. McGraw-Hill Co., Inc., 10th Av at 36th St, New York.

Electrician—Electrician. £2 14s; single numbers 1s 2d. 8 Bouverie St, London, E. C. 4.

Engineer—Engineer. Thick paper ed £3 7s 6d; Canadian subs £3 3s; thin paper ed £3 3s; Canadian subs £2 18s 6d; single numbers 1s 3d. Engineer, 33, Norfolk St, Strand, London, W.C. 2

Engineering—Engineering. Thick paper ed £3 7s 6d; Canadian subs £3 3s; thin paper ed £3 3s; Canadian subs £2 18s 6d; single numbers 1s 2½d. Engineering, Ltd., 35 and 36, Bedford St, Strand, London, W.C. 2.

Eng & Contr—Engineering and Contracting. $4; single numbers 20c. Engineering and Contracting Pub. Co., 9 S Clinton St, Chicago.

Eng & Ind Management—Engineering and * dustrial Management. 25s; single numbers 7d. Louis Cassier Co., Ltd., 34, Bedford St, Strand, London, W.C. 2.

Eng & Min J—Engineering and Mining Journal. $5; single numbers 25c. McGraw-Hill Co., Inc., 10th Av at 36th St, New York.

Eng Educ—Engineering-Education. $3 (ten numbers). Dean F. L. Bishop, University of Pittsburgh, Pittsburgh, Pa.
Indexed beginning v. 11,no 1, September, 1920

Eng N—Engineering News-Record. $5; single numbers 25c. McGraw-Hill Co., Inc., 10th Av at 36th St, New York.
Engineering News consolidated with Engineering Record beginning April 5, 1917.

Eng Soc W Pa—Proceedings of the Engineers' Society of Western Pennsylvania. $5; single numbers 50c. Engineers' Society of Western Pennsylvania, 568 Union Arcade Building, Pittsburgh, Pa.

Factory—Factory. $3; single numbers 25c. A. W. Shaw Co., Cass, Huron and Erie Sts, Chicago.

Flying—Flying. $3; single numbers 25c. Flying Assn., Inc., 280 Madison Av, New York.
Consolidated with Aerial Age Weekly beginning with August 1, 1921.

Foundry—Foundry. $3; single numbers 25c. Penton Pub. Co., Penton Bldg., Cleveland, O.

Gas Age—Gas Age-Record. $3; single numbers 25c. Robbins Pub. Co., Inc., 52 Vanderbilt Av, New York.
Consolidation of Gas Age and the Gas Record.

Gen Elec R—General Electric Review. $3; single numbers 30c. General Electric Co., Schenectady, N.Y.

Génie Civil—Le Génie Civil. 85 fr; single numbers 2 fr. 6, rue de la Chaussée-d'Antin, Paris (9e), France.

Good Roads—Good Roads. $3; single numbers 10c. E. L. Powers Co., 11 Waverly Place, New York.
New series volume number was dropped with the July 6, 1921 number, and the old series volume number continued.

Heat & Ven—Heating and Ventilating Magazine. $2; single numbers 20c. Heating & Ventilating Magazine Co., 1123 Broadway, New York.

Ill U Eng Exp Sta Bul—Illinois University Engineering Experiment Station. Bulletin. Univ. of Ill., Urbana.

Ill U Eng Exp Sta Circ—Illinois University Engineering Experiment Station. Circular. Univ. of Ill., Urbana.

Illum Engr—Illuminating Engineer. 18s; single numbers 1s 6d. Illuminating Engineering Pub. Co., 32 Victoria St, London, S. W. 1.

Illum Eng Soc—Transactions of the Illuminating Engineering Society. $5; single numbers 75c. Illuminating Engineering Soc., 29 W 39th St, New York.

Ind Management—Industrial Management. $3; single numbers 35c. Industrial Management, 120 W 32d St, New York.
Formerly Engineering Magazine.

India Rubber W—India Rubber World. $3; single numbers 35c. India Rubber Pub. Co., 25 W 45th St, New York.

Inland Ptr—Inland Printer. $4; single numbers 40c. Inland Printer Co., 632 Sherman St, Chicago.

Inst E E J—Journal of the Institution of Electrical Engineers. single numbers 10s 6d. E. & F. N. Spon, Ltd., 57 Haymarket, London, S. W. 1.; Spon & Chamberlain, 123 Liberty St, New York.
The Institution premises have been taken over by H. M. Government and the temporary offices are at 1 Albemarle Street, London, W. 1.

Inst Pet Tech J—Journal of the Institution of * Petroleum Technologists and Record of Transactions. single numbers 7s 6d. Institution of Petroleum Technologists, 5 John St, Adelphi, Strand, London, W.C. 2.

Int Labour R—International Labour Review. $5; single numbers 60c. International Labour Office, 7, Route de Pregny, Geneva, Switzerland.

Int Marine Eng. See Marine Eng

Iron Age—Iron Age. $6; single numbers 50c. Iron Age Pub. Co., 239 W 39th St, New York.

Iron & Steel Inst C S M—The Iron and Steel Institute Carnegie Scholarship Memoirs. E. & F. N. Spon, Ltd., 57 Haymarket, London, S. W. 1; Spon & Chamberlain, 123 Liberty St, New York.

Iron Tr R—Iron Trade Review. $6; single numbers 25c. Penton Pub. Co., Penton Bldg., Cleveland, O.

J Account—Journal of Accountancy. $4; single numbers 35c. Journal of Accountancy, Inc., 135 Cedar St, New York.

J Elec—Journal of Electricity and Western Industry. $2.50; single numbers 25c. McGraw-Hill Co. of Cal., Rialto Bldg., San Francisco, Cal.

J Fr Inst—Journal of the Franklin Institute. $6; single numbers 60c. Franklin Institute, Philadelphia.

J Ind & Eng Chem—Journal of Industrial and Engineering Chemistry. $7.50; single numbers 75c. Charles L. Parsons, sec., 1709 G St, N.W., Washington, D.C.

J Ind Hygiene—The Journal of Industrial Hy- * giene. $6; single numbers 75c. Journal of Industrial Hygiene, 1 Divinity Av, Cambridge 38, Boston.

J Phys Chem—The Journal of Physical Chemistry. $4. Cornell University, Ithaca, N.Y.

Locomotive—Locomotive. 50c; single numbers gratis; recent bound volumes $1. Hartford Steam Boiler Inspection & Insurance Co., Hartford, Conn.

Mach—Machinery. Engineering edition $3; single numbers 35c. Industrial Press, 140 Lafayette St, New York.

Marine Eng—Marine Engineering and Shipping Age. $3; single numbers 35c. Aldrich Pub. Co., 6 E. 39th St, New York.
Formerly International Marine Engineering

Marine R—Marine Review. $3; single numbers 25c. Penton Pub. Co., Penton Bldg., Cleveland, O.

Mech Eng—Mechanical Engineering, the Journal of the American Society of Mechanical Engineers. $4; single numbers 50c. American Society of Mechanical Engineers, 29 W 39th St, New York.

Metal Ind—Metal Industry. $1; single numbers 10c. Metal Industry Pub. Co., 99 John St, New York.

Metal Work. See Plumber and Steam Fitter and Sheet Metal Worker

Min & Met—Mining and Metallurgy. subs. $10; single numbers $1; to members, public libraries, and educational institutions, $5; single numbers 50c. F. F. Sharpless, sec., 29 W 39th St, New York.
Formerly Bulletin of the American Institute of Mining and Metallurgical Engineers

Min & Sci P—Mining and Scientific Press. $4; single numbers 15c. Dewey Pub. Co., 420 Market St, San Francisco, Cal.

Mo U Sch Mines & Met Bul—Bulletin of the University of Missouri, School of Mines and Metallurgy, Univ. of Mo., Rolla

Mo U Sch Mines & Met Bul tech ser—Bulletin of the University of Missouri, School of Mines and Metallurgy, Technical Series. Univ. of Mo., Rolla

Monthly Labor R—Monthly Labor Review. $1.50; single numbers 15c. U.S. Bureau of Labor Statistics, Washington, D.C.
Free to labor departments and bureaus and other offices connected with the administration of labor laws.

Motor Age—Motor Age. $5; single numbers 35c. Class Journal Co., 59 E Madison St, Chicago.
Not indexed since October 21, 1920

Munic Eng—Municipal and County Enginering. $2; single numbers 25c. Engineering Pub. Co., 702 Wulsin Bldg, Indianapolis, Ind.

Munic J. See Pub Works

N E L A Bul—National Electric Light Association Bulletin. $3. National Elecrtic Light Assn., 29 W 39th St, New York.

Nat Pet N—National Petroleum News. $5; single numbers 25c. National Petroleum Pub. Co., 812 Huron Road, Cleveland, O.

Nat Research Council Bul—National Research Council Bulletin. National Research Council, 1701 Massachusetts Av, Washington, D.C.

Nation's Business—The Nation's Business. $3; single numbers 25c. Chamber of Commerce of the United States, Mills Bldg., Washington, D.C.

N E Water Works Assn J—Journal of the New
* England Water Works Association. $4; single numbers $1.25. New England Water Works Association, 715 Tremont Temple, Boston.

Oil Paint & Drug Rep—Oil, Paint and Drug Re-
* porter. $5; single numbers 15c. Oil, Paint and Drug Reporter, 100 William St, New York.

Paper—Paper. $5; single numbers 25c. Paper, Inc., 251 W 19th St, New York.

Philos Mag—Philosophical Magazine, and Jour-
* nal of Science. single numbers 5s. Taylor and Francis, Red Lion Court, Fleet St, London.

Phys R—The Physical Review. Second Series.
* $7; single numbers 75c. The Physical Review, Ithaca, N.Y.

Plumber—Plumber and Steam Fitter. $2; single numbers 10c. Edwin A. Scott Pub. Co., Inc., 15 E 40th St, New York.
Formerly published as part of Metal Worker, Plumber and Steam Fitter.
Title changed July 15, 1921 to Sanitary & Heating Engineering

Pop Mech—Popular Mechanics Magazine. $3; single numbers 25c. Popular Mechanics Magazine, 6 N Michigan Av, Chicago.

Power—Power. $3; single numbers 15c. McGraw-Hill Co., Inc., 10th Av at 36th St, New York.

Power Pl Eng—Power Plant Engineering. $2; single numbers 15c. Technical Pub. Co., 537 S Dearborn St, Chicago.

Ptr Ink—Printers' Ink. $3; single numbers 10c. Printers' Ink Pub. Co., 185 Madison Av, New York.

Ptr Ink M—Printers' Ink Monthly. $2; single numbers 25c. Romer Pub. Co., Inc., 185 Madison Av, New York.
Indexed beginning v. 2, no. 1, December, 1920

Ptg Art—The Printing Art. $4; single numbers 40c. The University Press, Cambridge, Mass.
Indexed beginning v. 36, no. 1, September, 1920.

Pub Roads—Public Roads. $1; single num-
* bers 10c. U.S. Department of Agriculture, Bureau of Public Roads, Washington, D.C.

Pub Works—Public Works. $3. Public Works, 243 W 39th St, New York.
Formerly Municipal Journal and Public Works

Ry Age—Railway Age. $6; single numbers 25c. Simmons-Boardman Pub. Co., Woolworth Bldg., New York.
Formerly Railway Age Gazette

Ry Mech Eng—Railway Mechanical Engineer including the American Engineer. $3; single numbers 35c. Simmons-Boardman Pub. Co., Woolworth Bldg., New York.
Formerly Railway Age Gazette. Mechanical edition.

Ry R—Railway Review. $4; single numbers 25c. Railway Review, 537 S Dearborn St, Chicago; 30 Church St, New York.
Formerly Railway and Engineering Review.

Safety Eng—Safety Engineering. $3; single
* numbers 25c. Safety Press, Inc., 126 Maiden Lane, New York.

Sanitary & Heat Eng—Sanitary & Heating Engineering. $2; single numbers 10c. Edwin A. Scott Pub. Co., Inc., 15 E 40th St., New York.
Formerly published as Plumber and Steam Fitter

Sci Am—Scientific American. $4; single numbers 35c. Munn & Co., 233 Broadway, New York.
Consolidation of Scientific American Weekly and Scientific American Monthly, beginning November, 1921.

Sci Am M—Scientific American Monthly. $7; single numbers 60c. Munn & Co., 233 Broadway, New York.
Now Scientific American; formerly Scientific American Supplement

Sci Am S. See Sci Am M

Sheet Metal Worker—Sheet Metal Worker. $3; single numbers 15c. Edwin A. Scott Pub. Co., Inc., 15 E 40th St, New York.
A Consolidation of Metal Worker, Plumber and Steam Fitter and Sheet Metal

Sibley J—Sibley Journal of Engineering. $3; single numbers 30c. Sibley College, Cornell Univ., Ithaca, N.Y.

Soc Auto Eng J—Society of Automotive Engineers. Journal. $5; single numbers 50c. Society of Automotive Engineers, Inc., 29 W 39th St, New York.

Soc Ing Civils Bul—Mémoires et Compte Rendu
* des Travaux de la Société des Ingénieurs Civils de France. Bulletin. Hotel de La Société, 19, rue Blanche, 19 (9e), Paris, France.

Special Lib—Special Libraries. $4; single numbers 50c. Special Libraries Association, 513 Fourteenth St, Washington, D.C.

Stahl & Eisen—Stahl und Eisen, Düsseldorf,
* Germany.

Stevens Ind—Stevens Indicator. $1.50; single numbers 50c. Stevens Institute of Technology, Hoboken, N.J.

System—System. $3; single numbers 25c A. W.
* Shaw Co., Cass, Huron and Erie Sts, Chicago.

* Indexed beginning January, 1921

Textile World—Textile World. $4. Bragdon, Lord & Nagle Co., 334 4th Av, New York.
Formerly published as Textile World Record, monthly at $2; Textile World Journal

U S Agric Bul—United States. Dept. of Agriculture. Bulletin. Distributed free of charge. U.S. Dept. of Agriculture, Division of Publications, Washington, D.C.
Contributions from the Bureau of Chemistry, Forest Service and Office of Public Roads are indexed, also selected publications of other bureaus.

U S Bur For & Dom Com—United States. Bu-
* reau of Foreign and Domestic Commerce. Special agents series. U.S. Bureau of Foreign and Domestic Commerce, Washington, D.C.

U S Bur For & Dom Com misc ser—United
* States. Bureau of Foreign and Domestic Commerce. Miscellaneous series. U.S. Bureau of Foreign and Domestic Commerce, Washington, D.C.

U S Bur Labor Statistics Bul—United States. Bureau of Labor Statistics. Bulletin. Distributed free of charge. U.S. Bureau of Labor Statistics, Washington, D.C.

U S Bur Mines Bul—United States. Bureau of
† Mines. Bulletin. U.S. Bureau of Mines, Washington, D.C.

U S Bur Mines Circ—United States. Bureau of
† Mines. Miners' circular. U.S. Bureau of Mines, Washington, D.C.

U S Bur Mines Tech Pa—United States. Bureau
† of Mines. Technical paper. U.S. Bureau of Mines, Washington, D.C.

U S Bur Stand Circ—United States. Bureau of
‡ Standards. Circular. U.S. Bureau of Standards, Washington, D.C.

U S Bur Stand Sci Pa—United States. Bureau of Standards. Scientific papers. U.S. Bureau of Standards, Washington, D.C.
Per volume paper $1.25; cloth $1.50; foreign subscription, paper $2; cloth $2.10. Single numbers vary in price.

U S Bur Stand Tech Pa—United States.
‡ Bureau of Standards. Technologic papers. U.S. Bureau of Standards, Washington, D.C.

U S Geol S Bul—United States Geological Survey. Bulletin. Distributed free of charge. U.S. Geological Survey, Washington, D.C.

U S Nat Advisory Com for Aeronautics—United States National Advisory Committee for Aeronautics. Washington, D.C.

U S Sp Cons Rep—United States. Special con-
* sular reports. U.S. Bureau of Foreign and Domestic Commerce, Washington, D.C.

W Soc E J—Journal of the Western Society of Engineers. $3; single numbers 50c. Western Society of Engineers, 53 W Jackson Blvd, Chicago.

Wireless Age—The Wireless Age. $2.50; single numbers 25c. Wireless Press, Inc., 326 Broadway, New York.

* The free distribution of nearly all of the publications of the Bureau of Foreign and Domestic Commerce is confined to the American Consular Service, educational institutions, libraries, trade journals, newspapers, commercial organizations, such as chambers of commerce or manufacturers' associations, traffic managers of American railroads and government offices. Others may procure them from the Superintendent of Documents, Government Printing Office, Washington, D.C., or at any of the District or Cooperative offices of the Bureau, at the cost of printing.

† A limited edition of each publication of the Bureau of Mines is printed for free distribution to residents of the United States and its possessions and Canada, Mexico, Panama, and Cuba.

‡‡Single copies of the publications of the Bureau of Standards are sent free upon request to specialists concerned with the subjects treated, to those collaborating with the Bureau in its investigations, to organizations exchanging like courtesies with the Bureau, and to designated Government depository libraries. Others may purchase them from the Superintendent of Documents.

Abbreviations of Publishers' Names Used in Book Titles

Am. Acad. of Pol. and Soc. Sci. American Academy of Political and Social Science, Station B, Philadelphia

Appleton. Daniel Appleton & Co., 29-35 W. 32d St., N.Y.; 533 S. Wabash Av., Chicago

Baird. H: C. Baird & Co., 2 W. 45th St., N.Y.

Blakiston. P. Blakiston's Son & Co., 1012 Walnut St., Philadelphia

Bobbs. Bobbs-Merrill Co., University Square, Indianapolis; 185 Madison Av., N.Y.

Century Co., 353 4th Av., N.Y.

Chemical Catalog Co., Inc., 1 Madison Av., N.Y.

Chemical Pub. Co. Chemical Pub. Co., Easton, Pa.

Doran. George H. Doran Co., 244 Madison Av., N.Y.

Doubleday. Doubleday, Page & Co., Garden City, N.Y.

Drake. Frederick J. Drake & Co., 1006 S. Michigan Av., Chicago

Dutton. E. P. Dutton & Co., 681 5th Av., N.Y.

Ginn. Ginn & Co., (Educational text-bks.) 15 Ashburton Place, Boston; 2301-2311 Prairie Av., Chicago; 70 5th Av., N.Y.

Harper. Harper & Brothers, Franklin Square, N.Y.

Heath. D. C. Heath & Co., 50 Beacon St, Boston; 231 W. 39th St., N.Y.; 623 S. Wabash Av., Chicago

Henley. Norman W. Henley Pub. Co., Putnam Bldg., 2 W. 45th St., N.Y.

Holt. Henry Holt & Co., 19 W. 44th St., N.Y.

Houghton. Houghton, Mifflin Co., 4 Park St., Boston; 16 E. 40th St., N.Y.; 2451-2459 Prairie Av., Chicago; 278 Post St, San Francisco

Knopf. Alfred A. Knopf, 220 W. 42d St., N.Y.

Lippincott. J. B. Lippincott Co., East Washington Square, Philadelphia

Longmans. Longmans, Green & Co., 443-449 4th Av., Cor. 30th St., N.Y.

McGraw-Hill. McGraw-Hill Bk. Co., Inc., 370 7th Av., N.Y.

McKay. David McKay, 604-608 S. Washington Square, Philadelphia

Macmillan. The Macmillan Co., 66 5th Av., N.Y.

Manual Arts Press, 237 N. Monroe St., Peoria, Ill.

Oxford. Oxford University Press (Clarendon Press) (American branch), 35 W. 32d St., N.Y.

Penton Pub. Co., 12th St. Cor. Chestnut, Cleveland, O.

Pitman. Sir Isaac Pitman & Sons, 2-6 W. 45th St., N.Y.

Putnam. G. P. Putnam's Sons, Putnam Bldg., 2-6 W. 45th St., N.Y.

Ronald Press. Ronald Press Co., Evening Post Bldg., 20 Vesey St., N.Y.

Routledge. Routledge, G. & Sons, Ltd., Broadway House, 68-74 Carter Lane, Ludgate Hill, E.C. 4

Scribner. Charles Scribner's Sons, 597 5th Av., N.Y.; 608 S. Dearborn St., Chicago

Spon. E. & F. N. Spon, Ltd., 57 Haymarket, London, S. W. 1; Spon & Chamberlain, 123 Liberty St., N.Y.

Stokes. F. A. Stokes Co., 443-449 4th Av., N.Y.

U. P. C. Book Co., Inc., 243 W. 39th St, N.Y.

Van Nostrand. D. Van Nostrand Co., 8 Warren St., N.Y.

Wiley. John Wiley & Sons, Inc., 432 4th Av., N.Y.

Industrial Arts Index

A Cumulative Index to Engineering, Trade and Business Periodicals and Selected Books and Pamphlets

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Abeel brothers, New York
Linking past and present warehousing of iron and steel in New York. E. C. Kreutzberg. Iron Tr R 69:286-8+ Ag 4 '21

Abercrombie and Fitch company
Building a reputation for authority by professional service to customers. C. B. Larrabee. il Ptr Ink M 3:28-30+ Ag '21

Aberration
Transmission of waves through a symmetric optical instrument. I. Roman. Phys R 18: 62-77 Jl '21

Aberthaw construction company
Aberthaw construction co.'s instructions for its field men. Eng & Contr 55:67-8 Ja 19 '21

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Ability tests
Building a better force of workers: gaging applicants' skill will help you pick workers better suited to the job; four trade tests. E. S. Benge. Factory 25:1237-9 O 15 '20
Correlation between army intelligence test and college records. E. F. Coddington. Eng Educ 11:311-18 F '21
Mental tests. P. B. Ballard. 235p Hodder & Stoughton, ltd., London '20
Practical mental measurement. R. M. Yerkes. diags Sci Am M 1:270-3 Mr '20
Prevention of fatigue in industry; psychological tests and the reduction of necessary fatigue. R. A. Spaeth. Ind Management 59: 311-13 Ap '20
Prevention of labor turnover. H. G. Kenagy. Administration 2:464-8 O '21
Psychological examinations; new and practical methods of measuring vocational fitness. A. T. Poffenberger. il Sci Am M 3:205-11 Mr '21
Psychological examining in the United States army. R. M. Yerkes, ed. 590p (Memoirs v. XV) National academy of sciences, Washington '21
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Die psychotechnische eignungsprüfung und ihre anwendung auf hüttenbetriebe. Hüttenhain and others. Stahl & Eisen 41:822-7 Je 16 '21
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Les différents types d'accélérometres. Boyer-Guillon. Génie Civil 78:200-1 F 26 '21
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Try this on your last year's advertisements. C. W. Garrison. Ptr Ink 115:129-30 Ap 21 '21

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Billy Sunday, copy writer. H. T. Mitchell. Ptr Ink 112:99-100 S 16 '20

Building the advertising background with feature stories. S. C. Lambert. Ptr Ink 112:89-90 S 23 '20

Business paper advertising that capitalizes human habits. R. B. Lockwood. Ptr Ink 115: 133-4+ Je 16 '21

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Copy that is too full of advertising. E. E. Calkins. Ptr Ink 110:25-7+ Ja 29 '20

Copy writer finds a way to put himself in buyer's place. R. M. Rhodes. Ptr Ink 117: 33-4 N 3 '21

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Does something new and different always pay? G. K. Brown. Ptr Ink M 2:73 Ja '21

Dramatization of advertising ideas. E. McKenna. Ptr Ink 112:93-6 Ag 19 '20

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English advertising writers catch the American spirit. W. H. Heath. Ptr Ink 113:149-50+ O 14 '20

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Frankness in copy instills confidence. R. B. Lockwood. Ptr Ink 112:81-2+ S 16 '20

Get it at your dealer's. R. L. Burdick. Ptr Ink 113:65-6+ D 16 '20

Get the reader into the picture. Ptr Ink 117:57-8+ O 6 '21

Getting a real personality into the advertisement. W. L. Larned. Ptr Ink 113:49-50 D 2 '20

Getting action on your advertising. G. K. Brown. Ptr Ink 114:17-20 Ja 6 '21

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Giving the dealer business-building tips in the advertising. Ptr Ink 112:125-6+ S 16 '20

Giving the product a living personality. A. L. Townsend. Ptr Ink 114:91-2 Mr 24 '21

Go to the people. Ptr Ink 117:113-14+ O 27 '21

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Human touch that wins the reader. W. L. Larned. Ptr Ink 117:96-7+ N 3 '21

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Institutional advertising by the historical method. il Ptr Ink 111:25-7 Ap 22 '20

Is advertising too high in the forehead? P. C. Gunion and J. Tarcher. Ptr Ink 114:109-10+ Ja 20 '21

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Lazy copy. P. K. Marsh. Ptr Ink 110:25-7+ Ja 15 '20
Lecturing the prospect a doubtful practice. A. F. Edmondson. Ptr Ink 117:145-6+ O 13 '21
Making a product supreme in its own home town. F. Cook. Ptr Ink 114:19-20 Mr 31 '21
Making copy go fast. Ptr Ink 110:41-3 Ja 1 '20
Making one feature the main theme. A. L. Townsend. Ptr Ink 113:165+ N 25 '20
Making the inanimate object live in the advertising. A. L. Townsend. Ptr Ink 112:81-2 Ag 19 '20
Manufacturer builds on past performance when line is broadened. Ptr Ink 112:49-50+ Jl 22 '20
Measuring the copy to suit the calibre of the product. H. T. Mitchell. Ptr Ink 114: 109-10 Mr 3 '21
Memory, the yardstick of advertising. T. H. Thompson. Ptr Ink 117:93-4 O 6 '21
Mr Crump gets an O. K. S. Dick. il Ptr Ink M 3:46+ S '21
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New selling point markets an old product. T: Russell. Ptr Ink 110:68+ Ja 8 '20
New uses for old advertisements. R. B. Lockwood. Ptr Ink 112:57-8+ Jl 29 '20
O. Henry as a copy man. H. T. Mitchell. Ptr Ink 116:73-4+ Ag 11 '21
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Ought the boss to write the copy?; the example of President Jordan, of the Jordan motor car co. H. Wiseman. Ptr Ink 116:53-4+ Ag 4 '21
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Reading ads with your ears. P. Waxman. Ptr Ink 110:137-8+ Mr 11 '20
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Responsibilities of the teaser campaign. A. L. Townsend. Ptr Ink 113:41-2+ N 18 '20
Retail selling suggestions form keynote of business paper advertising. Ptr Ink 110: 73-4+ Mr 11 '20
Reversing the letter of endorsement. Ptr Ink 112:145-6+ S 16 '20
Royal Tailors sell personality of their workmen to get foothold in big cities. Ptr Ink 113:77-8+ D 9 '20
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Should copy be written in English or American? H. Wiseman. Ptr Ink 115:33-4+ Ap 21 '21
Show me, says the reader of technical advertisements. R. B. Lockwood. Ptr Ink 111:69-70+ Ap 8 '20
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Singing words. P. K. Marsh. Ptr Ink 113:33-6 N 18 '20
Single sales appeal, constantly advertised, built this business. J: A. Murphy. Ptr Ink 115:3-4+ Je 16 '21
Small-town merchant needs an adjusted selling appeal. H. E. Miles. Ptr Ink 112: 101-2+ Jl 15 '20
Small-town people are no longer different. H. E. Miles. Ptr Ink 114:57-8 F 10 '21
Some antics of old-time advertising. F. D. Boyd. Ptr Ink 112:41-2+ S 9 '20
Some of the earmarks of copy that is written too easily. Ptr Ink 110:85-6+ F 19 '20
Statistics—using them effectively in advertising. S. C. Lambert. Ptr Ink 116:121-2 Ag 11 '21
Strategic words and phrases in the copy. A. Cobb, jr. Ptr Ink 112:105-7 Ag 19 '20
Structure of copy. Ptg Art 37:324-6 Je '21
Summing up the virtues of the merchandise. D. W. Henderson. Ptr Ink 115:97-8+ Je 30 '21
Taking the writer out of copy writer. M. E. Feckler. Ptr Ink 111:167-8 Ap 1 '20
Talking Father Knickerbocker's own language. W. L. Larned. Ptr Ink 113:69-70+ D 30 '20
Tests to find the advertisable argument. B. Ashbrook. Ptr Ink 115:61-2+ Ap 7 '21
There are fundamental differences between advertising copy and literature. H. W. Patterson. Ptg Art 37:517-19 Ag '21
There is nothing obvious under the sun. P. C. Gunion. Ptr Ink 112:19-20 S 23 '20
Things as they are. R. H. Isbell. Ptr Ink M 2:63-4 Ja '21
Three times and over. R. M. Rhodes. Ptr Ink M 3:24 S '21
To-day's news in the advertisements. J. H. Payne. Ptr Ink 112:122+ Jl 1 '20
Trickless advertisement—a reply to lazy copy. Ptr Ink 110:33-6 Ja 15 '20
Untold stories that might make advertising more effective. W. L. Larned. Ptr Ink 116: 57-8+ S 15 '21
Use—a fruitful source of marketing and copy ideas. Ptr Ink 117:41-2+ O 20 '21
Wanted: old-fashioned sales copy. Ptr Ink 115:61-2+ My 5 '21
Well, what does constitute a good idea? A. L. Townsend. Ptr Ink 114:73-6 Ja 6 '21
What is an advertisement? B: H. Jefferson. Ptr Ink M 3:34-5 Ag '21
What the customer looks for in merchandise. R. H. Isbell. Ptr Ink 113:93-4+ N 11 '20
What the steady stride policy in advertising is doing for Lowe brothers this year. R. Cole. Ptr Ink 116:105-6+ Jl 7 '21
When is it advisable to change the advertising appeal? R. H. Isbell. Ptr Ink 115:126+ Je 2 '21
When the big sales argument loses its punch. A. Cobb, jr. Ptr Ink 113:57-8+ N 18 '20
When there is nothing to say about the product—dig. Ptr Ink 110:33-4 Ja 1 '20
Where copy slants come from. F. H. Williams. Ptr Ink 112:146+ Ag 26 '20
Where some technical advertisers find unusual copy angles. R. B. Lockwood. Ptr Ink 110:169+ Mr 18 '20
Who is Jim Henry; the mythical salesman who writes Mennen shaving cream copy. W. A. McDermid. Ptr Ink 114:63-4 F 10 '21
Why imaginary talking-points should be avoided. R. W. Johnson. Ptr Ink 115:96+ My 26 '21
Why not advertise as though you meant it? R. N. Rhodes. Ptr Ink 113:25-7+ N 25 '20
Why not try English? L. Markel. Ptr Ink 115:109-10+ My 12 '21

Advertisements—Composition —*Continued*
Why there are no rules for writing advertisements. F. H. Williams. Ptr Ink 110:113-14+ F 26 '20
Writing advertising copy. J. Lightbody. J Elec 46:73-4 Ja 15 '21

See also Advertisements, Humorous; Advertisements, Pictorial

Coupons

Little coupon in the corner. W. L. Larned. Ptr Ink M 3:58+ S '21

Esthetic appeal

Beauty of design is made keynote of advertising policy of Oneida community. R. Cole. il Ptr Ink M 2:15-18+ D '20

See also Candles—Advertising

Fashion appeal

It's used by the very best people. A. L. Townsend. Ptr Ink 116:65-6+ Jl 21 '21

Graphs

Graphic methods in technical advertising. A. H. Richardson. Ind Management 61:288-91 Ap 1 '21

Headlines

Giving added emphasis to the headline text. W. L. Larned. Ptr Ink 117:49-50 O 27 '21
Headlines that ask a question. W. L. Larned. Ptr Ink 111:43-4 Je 3 '20
Headlines that make you read the copy. H. Wiseman. Ptr Ink 115:49-50+ My 26 '21

Health appeal

Advertising will put health on the map. C. E. Williams. Ptr Ink 112:130+ Ag 5 '20
Campaign seeks to introduce liquid soap in the home. R. Cole. Ptr Ink 110:77-8+ Ja 8 '20
Making a product a national issue. Ptr Ink 112:142+ S 9 '20

Illustrations

See Advertisements, Pictorial

Negative appeal

Square D company junks the negative appeal. Ptr Ink 113:81-2 N 11 '20
Successful marketing with a negative idea; Ptr Ink 116:53-4+ S 29 '21
Value of the negative appeal. Ptr Ink 112:12 S 2 '20

Novelties

See Advertising novelties

Novelty appeal

New ideas in the product that make advertising's work easier. Ptr Ink 115:49-50+ Ap 28 '21

Price justification

See Advertising, Educational

Price quoting

Advertising the price does sell goods. R. A. Hardy. Sanitary & Heat Eng 96:255-6+ O 21 '21
Does a quality article suffer loss of dignity when priced? R. Cole. Ptr Ink 115:141-2+ My 26 '21
Emphasize price as big selling argument. C. Hendrickson. Ptr Ink 114:41-2 Ja 27 '21
How much will it cost?—does your advertising tell? R. H. Isbell. Ptr Ink 112:41-2+ S 16 '20
Is it time to advertise price as well as product? C. P. Russell. Ptr Ink 113:3-4+ N 18 '20
Quoting price by new unit broke down sales resistance of oak flooring. G. A. Nichols. Ptr Ink 113:93-4+ N 4 '20
Should the advertiser list the retail price? H. L. Winn. Ptr Ink 111:153-61 My 20 '20
What advertising means to me. Ptr Ink 114: 41-4 F 10 '21
When to advertise the price. C. P. Russell. Ptr Ink 113:41-2+ D 23 '20

Pride appeal

Pride appeal enables manufacturer to sell better merchandise; advertising of Belber luggage. A. S. Banks. Ptr Ink 115:154+ Ap 14 '21

Quality appeal

Converting knocks into sales-arguments. Ptr Ink 110:138+ Mr 4 '20
How a happy use of suggestion can put over the quality idea. G. D. Ward. Ptr Ink 113:25-7 O 21 '20
Unusual quality proves good talking point for fifty-cent collar. B. Gannon. Ptr Ink 116: 129-30+ Jl 21 '21
What to do when product is near losing identity. C. M. Harrison. Ptr Ink 114:73-6 F 3 '21

Safety appeal

Trade ballot to determine whether or not copy is right. Ptr Ink 112:118+ S 2 '20

Specimens

Attainable ideals in newspaper advertising. Inland Ptr 66:488a-d Ja '21

Standardization

Can advertisement sizes be standardized? M. Martin. Ptr Ink M 3:16-18+ Ag '21

Testimonials

Bringing the testimonial-ad up to date. Ptr Ink 114:25-6 Mr 17 '21
Dealers! why not cash in on those magazine approvals? K. Maddock. il Elec R 79:663-4 O 29 '21
New way of applying the testimonial. Ptr Ink 116:129-30+ Ag 18 '21

Thrift appeal

Advertising headlines that cater to the buyer's market. W. L. Larned. Ptr Ink 113: 57-8+ N 25 '20
Farm thrift—its significance to advertisers. Ptr Ink 112:122+ Ag 5 '20
Using the economy appeal to change a luxury into a necessity; silk underwear manufacturer averts sales slump. R. Cole. Ptr Ink 113:3-4+ O 14 '20

Typography

Advertisement framer or gilder vs. the mere copy writer. F. T. Singleton. Ptg Art 37: 41-8 Mr '21
Anamorphosis in advertising design. F. T. Singleton. Ptg Art 37:539-42 Ag '21
Art printing, personal expression, and the working of the beauty sense. il Ptg Art 38: 66-8 S '21
Beauty, dignity, and display effectiveness. J. L. Frazier. il Inland Ptr 67:785-8 S '21
Circumstances alter cases. J. L. Frazier. Inland Ptr 68:66-7 O '21
Copy that may be dressed well. E. R. Currier. Ptr Ink 111:169+ Je 10 '20
Debatable black background. W. L. Larned. Ptr Ink 114:57-8+ Mr 10 '21
Design: the missing link between copy and printing. F. T. Singleton. Ptg Art 36:483-90 F '21
Does color in magazine advertising pay? Ptg Art 37:455-7 Jl '21
Effective typography increases sales force of advertisements. W: A. Kittredge. Ptr Ink M 2:33-4+ F '21
Following a formula in display to get continuity. Ptr Ink 112:93-4+ Ag 26 '20
How lettering can make an advertisement distinctive. W. L. Larned. Ptr Ink 115:61-2+ Je 16 '21
How the offset process helps feminize store literature. D. L. Smith. il Ptr Ink M 3: 50+ N '21
How to make the most of small space. J. F. Cameron. Ptr Ink M 2:44+ My '21
Invitation to advertisement designers with a questionnaire on a Welsbach advertisement. il Ptg Art 38:61-4 S '21
Is the golden section golden in advertising? R. M. Rhodes. Ptr Ink M 3:32-4+ Jl '21
Making an advertising layout. I. L. Heuslein. Ptg Art 36:117-22 O '20

Advertisements—Typography—*Continued*
Modern publicity; a plea for art in advertising. A. W. Dean. 70p Pitman '21
Niceties of composition. Ptr Ink 116:53-4+ Jl 14 '21
Notable series of advertisements. J. L. Frazier. Inland Ptr 65:741-3 S '20
Opening the gates to the garden—a talk on layout and art. H: Hale, jr. Inland Ptr 64:299-302 D '19
Planning the double-column display. W. L. Larned. Ptr Ink 112:85-6+ Ag 26 '20
Selling a high-priced car with good copy and typography. W: A. Kittredge. Ptg Art 37: 313-17 Je '21
Setting type in unconventional form. W. L. Larned. Ptr Ink 111:25-8 My 6 '20
Super-display by means of cleverness of layout. W. L. Larned. Ptr Ink 116:122+ S 29 '21
Time to guard against waste of white space. Ptr Ink 110:10+ Ja 1 '20
Typography of bank advertisements. T. D. MacGregor. il Ptg Art 36:25-32 S '20
Value of comparison. J. L. Frazier. Inland Ptr 65:609-11 Ag '20
Variety without loss of identity. J. L. Frazier. Inland Ptr 66:65-7 O '20
When to use the second color. E. R. Currier. Ptr Ink M 2:19-21 Ja '21

Advertisements, Classified
Don't neglect the classified. R. Dickinson. Ptr Ink 115:81-2+ Ap 14 '21

Want ads
Heart-throb copy that pulled results. Ptr Ink 116:50+ Ag 18 '21

Advertisements, Humorous
Day of the humorist in advertising. A. L. Townsend. Ptr Ink 113:165+ D 9 '20
Jazz copy in the technical field. C. B. McCuaig. Ptr Ink 113:120+ D 16 '20
Laughter—what it means to advertisers. J. T. Bartlett. Ptr Ink 111:41-4 Ap 15 '20
Wanted—a sense of humor. T. H. Thompson. Ptr Ink 112:41-2+ Jl 22 '20

Advertisements, Pictorial
Accessories that make the half-tone interesting. D. P. Foster. il Ptr Ink 111:133-4+ Ap 15 '20
Adopting an advertising character with no near relatives. Ptr Ink 113:113-14 O 7 '20
Advertisements that rely on quaintness instead of size. Ptr Ink 110:189-90 Mr 18 '20
Advertisements that sell without showing the product. D. Gridley. Ptr Ink M 3:49-50+ Je '21
Advertisements unveil the daily life of the business man. Ptr Ink 113:158+ D 16 '20
Advertising auto tires by atmosphere. Ptr Ink 111:105-6 Ap 8 '20
Advertising cashes in on a gesture common among motorists. R. Cole. Ptr Ink 116: 122+ S 22 '21
Advertising comes back to Santa Claus. S. C. Lambert. Ptr Ink 113:149-50+ D 2 '20
Advertising dress that creates individuality. L. Peake. il Ptr Ink M 2:23-4 Ap '21
Advertising's master of properties. W. L. Larned. il Ptr Ink M 3:22-3+ N '21
The American advertisement. A. W. Dean. Ptr Ink 116:93-6+ Ag 25 '21
Appeal of color in advertising. Ptr Ink 113: 93 D 30 '20
Architecture applied to the layout. E. L. Fitchner. Ptr Ink M 3:37 O '21
Art directors' exhibition. E. E. Calkins. il Ptr Ink M 2:15-17+ Ap '21
Art embellishment changes entire character of an account. G. R. Allen. Ptr Ink 113: 129-30+ O 28 '20
Art of the illustration in miniature. Ptr Ink 113:41-2+ N 4 '20
Artist's prerogative of standing pat on his illustrations. W. L. Larned. Ptr Ink 112: 105-6 S 30 '20
As-the-customer-sees-the-goods a theme for illustration. P. K. Knowlton. Ptr Ink 112: 149+ S 2 '20
Atmosphere for the commonplace product. W. H. Heath. Ptr Ink 110:65-6+ Mr 11 '20
Aunt Jemima comes to life. G. A. Nichols. Ptr Ink 110:17-20+ Mr 18 '20
Back to first principles in advertising display. Ptr Ink 114:65-6+ Mr 24 '21
Bank that advertises itself by advertising New England. D. G. Miller. il Ptr Ink M 2:30-1+ D '20
Black backgrounds and contrasts. Ptr Ink 110: 152+ F 19 '20
Campaign that cashes in on other firms' trademarks. Ptr Ink 110:99 Ja 22 '20
Cartoons used to get sales argument to wholesalers. Ptr Ink 110:121-2 Ja 8 '20
Catching the eye of the lazy reader. W. L. Larned. Ptr Ink 113:150-2 N 18 '20
Character-study heads that put over the story. W. L. Larned. Ptr Ink 114:166+ Mr 17 '21
Charts as the picture theme. Ptr Ink 113: 153-4 O 21 '20
Color and the camera. A. Krug. il Ptr Ink M 2:30+ Ap '21
Comedies of advertising. W. L. Larned. Ptr Ink M 2:36+ Ja; 40+ F '21
Commercial art and the block print. F. Weitenkampf. il Ptg Art 36:393-402 Ja '21
Contrasts that sparkle up illustrations. W. L. Larned. Ptr Ink 117:65-6+ O 13 '21
Conversational pictures sell quality to Fifth avenue and Main street. C. B. Larrabee. Ptr Ink M 2:15-16+ My '21
Copy value of crowds. D. W. Kingsley. Ptr Ink M 2:83+ D '20
Criticized advertisements that are popular, notwithstanding. C. Walters. Ptr Ink 110: 81-2 F 26 '20
Decoration which builds an atmosphere for the product. G. Rosa. il Ptr Ink M 2: 25-6+ F '21
Department store engages leading artists to illustrate advertising. Ptr Ink 112:150+ S 23 '20
Dramatized message. J: R. Coffee. Ptr Ink M 3:108+ N '21
Drawings that print on uncoated papers. W. L. Larned. Ptr Ink 111:97-8+ Ap 22 '20
Element of vivid contrast in illustrations. Ptr Ink 115:57-8+ Je 23 '21
Elements that go to make art embellishment striking. W. L. Larned. Ptr Ink 112:57-8 S 16 '20
Expert surgery of the art department. W. L. Larned. Ptr Ink 111:33-5 Ap 1 '20
Famous churches in advertisements boost the sales of wedding rings. D. G. Baird. Ptr Ink 112:57-8 Jl 8 '20
Finding a significant theme for the illustration. W. L. Larned. Ptr Ink 111:65-6 Je 10 '20
Finding advertising ideas in salesmen's demonstrations. A. H. Deute. Ptr Ink 110:138+ Ja 15 '20
Finding the theme for the illustration. W. L. Larned. Ptr Ink 113:105-6+ O 28 '20
Giving the photograph an art quality. L. Peake. Ptr Ink 116:123-4+ Ag 4 '21
Greying-down the background. W. L. Larned. Ptr Ink 111:57-8+ Je 24 '20
Heart throbs as the pictorial theme. W. H. Heath. Ptr Ink 113:157-8+ N 11 '20
Hidden beauties of the photographic illustration. W. L. Larned. Ptr Ink 110:57-8+ Mr 25 '20
How National oats came to adopt a new trademark. F. H. Morse. il Ptr Ink 112:57-8+ S 9 '20
How the eye follows a single line. Ptr Ink 115: 65-6+ Je 2 '21
Idea-plus in the illustration. W. L. Larned. Ptr Ink 115:53-6 My 5 '21
Illustration novelties that catch the eye. W. L. Larned. Ptr Ink 114:95-6+ Mr 31 '21
Improved technique of newspaper illustrations. Ptr Ink 116:100+ S 22 '21
Incongruous advertisements. M. B. Saunders. Ptg Art 37:318-20 Je '21
Jumbo display that dominates. W. H. Heath. Ptr Ink 116:41-2+ Jl 7 '21
Labor—a gladiator of the pictures. A. L. Townsend. Ptr Ink 112:117-18+ Jl 8 '20
Line drawings popular in British publications. T: Russell. Ptr Ink 113:57-8 D 16 '20
Line engravings that closely resemble product's appearance. T: Russell. Ptr Ink 116: 44+ Jl 28 '21

Advertisements, Pictorial —*Continued*
Linking the aerial view with the advertising view. R. B. Lockwood. il Ptr Ink M 2:14-15+ Ja '21
Little actors of the advertising camera. W. L. Larned. Ptr Ink 116:57-8+ S 1 '21
Making the illustration a mere adjunct to the text. J. L. Conkey. Ptr Ink 114:73-4+ Mr 3 '21
Making the pictorial contrast sharp. Ptr Ink 111:113-14+ My 20 '20
Making the still life live. K. B. White. il Ptr Ink M 2:29-30 My '21
Man's primitive interest in tracks and feet. Ptr Ink 110:89-90+ Ja 29 '20
Marked improvement in newspaper advertising display. A. L. Townsend. Ptr Ink 113:122+ O 14 '20
Mother-and-child pictures to sell cocoa. Ptr Ink 112:49-50 Jl 8 '20
Opening up the package to show the goods. il Ptr Ink 110:99-100+ F 19 '20
Peopling the advertisement with characters that really live. W. L. Larned. il Ptr Ink 110: 59-60+ F 12 '20
Picture comparisons that make a giant of the product. Ptr Ink 111:105-6+ Ap 1 '20
Pictures that look the reader straight in the eyes. Ptr Ink 112:33-4 Ag 12 '20
Please keep your pictures simple! Ptr Ink 111:81-2+ Ap 15 '20
Practical shading tints and their application in modern advertising illustrations, from the studios of Osgood co. 27p Chicago '20
Prestige for American merchandise built on exhaustive study. E: T. Tandy. il Ptr Ink M 2:17-18+ Ja '21
Product may be dwarfed by wrong type of picture. W. L. Larned. Ptr Ink M 2:104+ D '20
Putting action into advertising illustration. il Ptr Ink 110:69-70+ Ja 15 '20
Putting poster punch in the picture. Ptr Ink 112:81-2 Jl 29 '20
Realism in mechanical illustrations. L. N. Burnett. il Ptr Ink M 2:68+ My '21
Reincarnation of advertising characters. W. L. Larned. Ptr Ink 114:150+ Ja 6 '21
Safeguarding the line plate. Ptr Ink 112:57-8+ Ag 5 '20
Sales pictures; specimens. Ptr Ink M 3:27-30 S '21
Shorthand art illustrates new absorbine campaign. Ptr Ink 110:131-2 F 19 '20
Show all pictured equipment up-to-date, even though you don't make it. I. Mattson. Ptr Ink 112:19 Ag 12 '20
Show only the hands. il Ptr Ink 110:96-7+ Ja 1 '20
Specialism. J. A. Heppes. Ptg Art 36:417-19 Ja '21
Spotlighting the advertised goods. W. L. Larned. Ptr Ink 111:60+ My 13 '20
Suggestion of life without figures. H. Williams. Ptr Ink 111:96+ Ap 29 '20
Superimposing the product on the main illustration. W. L. Larned. il Ptr Ink 116:57-8+ Ag 25 '21
Techniques of advertising illustration. W. L. Larned. il Ptg Art 36:473-82; 37:25-34, 121-9, 213-21, 305-12, 405-16, 509-16 F-Ag '21
That added ten per cent of cleverness in copy. W. L. Larned. Ptr Ink 112:97-8 Ag 12 '20
To make the factory picture reflect your product. K. B. White. il Ptr Ink M 3:40-1+ S '21
Unprofessional advertising that builds for future sales. C. P. Russell. Ptr Ink 110:49-51 F 12 '20
Use of advertising picture confers no trademark monopoly. Ptr Ink 112:113-14 Ag 26 '20
Use of photographs in Swiss advertising. Sci Am 125:68 Jl 23 '21
Using pictures to tell a long copy story. Ptr Ink 115:138+ My 12 '21
Value of illustrative label. W. L. Larned. Ptr Ink 112:133-4 Jl 22 '20
Versatility—and a bottle of ink. il Ptr Ink 110: 17-20 Mr 11 '20
Vexatious problems of the art department. Ptr Ink 113:169-70+ D 16 '20
Viewpoint in looking at an advertising picture. C. H. Claudy. Ptr Ink 111:25-8+ Ap 8 '20
Visualizing the magnitude of a business with chart illustrations. R. D. Newton. Ptr Ink 112:107-8 S 9 '20
What becomes of your old drawings? suggestions for filing and rehabilitation of used original advertising illustrations. Ptr Ink 116:89-90 Ag 11 '21
What constitutes a good mechanical drawing? Ptr Ink 115:105-6+ Ap 14 '21
When is an illustration unconventional? W. L. Larned. Ptr Ink 113:165-6+ O 7 '20
When the photograph is live news. C. R. Knite. Ptr Ink 112:100-1 Ag 19 '20

See also Portraits; Posters; Rotagravure; Trade marks

Portraits

Advertisers' right to use portraits of political candidates. Ptr Ink 112:19-20 S 2 '20
Associating a product with prominent people. E. H. Falkner. il Ptr Ink M 2:58+ F '21
Faces and fortunes. R. H. Isbell. Ptr Ink M 2:34+ D '20
Personalizing a machinery store. P. B. Findley. Ptr Ink 114:81-2 F 17 '21
Portraits that are permissible in advertising. Ptr Ink 110:52, 57+ Ja 8 '20
Proper form of release from photographic models. Ptr Ink 112:20 S 9 '20

Advertisements, Repetition of
Making an advertisement score twice. A. McClure. Ptr Ink 112:109-11 Ag 5 '20
New uses for old advertisements. R. B. Lockwood. Ptr Ink 112:57-60 Jl 29 '20
Recapitulation of the campaign. W. L. Larned. Ptr Ink 114:41-3 Ja 20 '21

Advertising
Advertised line a stabilizing factor in times of stress. R. Cole. Ptr Ink 113:3-4+ D 2 '20
Advertiser's handbook. 2d ed. 445p International textbook co., Scranton, Pa. '21
Advertising a duty to the public as well as to business. J: E. Weier. Ptr Ink 112:65-6+ S 2 '20
Advertising enables manufacturer to control his production. R. Dickinson. Ptr Ink 117: 19-20 O 27 '21
Advertising establishes profession of tree surgery. R. Cole. il Ptr Ink 110:17-20+ F 19 '20
Advertising fills in wide sales gap by changing custom; Cyclone fence company revives enclosed lawn idea. G. A. Nichols. Ptr Ink 114:97-8+ Mr 24 '21
Advertising finds buyer for 27,000,000 pounds of surplus product. L. P. Wight. Ptr Ink 115:89-90 My 12 '21
Advertising handbook. S: R. Hall. 743p McGraw-Hill '21
Advertising holds down prices of commodities. J: Sullivan. Ptr Ink 111:122+ Ap 15 '20
Advertising in 1930. B: Jefferson. Ptr Ink M 2:13-14 D '20
Advertising information the forthcoming census will yield. Ptr Ink 110:65-6+ F 5 '20
Advertising introduces the square doughnut. il Ptr Ink 110:8+ Ja 15 '20
Advertising—selling the consumer, by J: L. Mahin. Review and excerpts. Ptg Art 37: 326-32 Je '21
Advertising that reduces selling costs. T: Russell. Ptr Ink 114:105-6 Ja 27 '21
Advertising under fire; education needed to explain the economic justification of advertising. J: Sullivan. Ptr Ink 111:49-52 Ap 22 '20
Advertising's ten great achievements. Ptr Ink M 2:16+ Ja '21
American business and its debt to advertising. F. W. Ayer. Ptr Ink 115:81-2+ My 26 '21
American tobacco company ties up sales talk with advertising copy. R. Bostick. Ptr Ink 116:3-4+ Ag 25 '21
Aunt Jemima comes to life. G. A. Nichols. Ptr Ink 110:17-20+ Mr 18 '20
Better advertising. J: M. Manly. 157p Drake '21

Advertising—*Continued*

Better understanding in the whole advertising business an essential. R. Dickinson. Ptr Ink 111:129-30+ Ap 29 '20

Burglar-proofing a market after you have won it. Ptr Ink 110:81-2+ F 5 '20

Can advertising shoulder the whole sales responsibility?; salesmen for mulsified shampoo are really field representatives of advertising department. A. Cobb, jr. Ptr Ink 113:57-8+ O 21 '20

Catching up the loose ends in an advertising campaign. Ptr Ink 116:118+ S 1 '21

Concern which is getting ready to advertise. R. W. Johnson. Ptr Ink 110:3-4+ Ja 15 '20

Courage to go ahead in business. R. Dickinson. Ptr Ink 113:57-8+ D 9 '20

Cut my commission and advertise! A. P. Roberts. Ptr Ink 111:89-92 My 20 '20

Does local advertising pay? Metal Work 92: 389-90 O 3 '19

Does the advertiser know advertising? A. L. Townsend. Ptr Ink 113:145-6+ O 28 '20

Don't be fooled by the straws. H. Varley. Ptr Ink 113:41-2+ O 7 '20

Essentials of advertising. F. L. Blanchard. 322p McGraw-Hill '21

Fast awakening force—advertising. E. E. Calkins. Ptr Ink M 2:23-4+ F '21

Fear of competition cured by advertising. H. E. Agnew. Ptr Ink 112:146+ Ag 5 '20

Get Susie Mulligan into the dealer's store. R. Dickinson. Ptr Ink 115:113-14 Je 9 '21

Getting dealer distribution when jobbers will not buy; makers of Kampkook use advertising. C. B. Larrabee. Ptr Ink 116:101-2+ Ag 11 '21

Guessing on advertising results. H. E. Agnew. Ptr Ink 113:42+ O 21 '20

Has advertising ever advertised itself—adequately? W. L. Larned. Ptr Ink 113:73-4+ O 21 '20

High cost of a non-advertising policy. J. E. Bullard. Ptr Ink 114:49-50+ Mr 10 '21

Hook the newspaper copy up to the telephone. R. F. Baldwin. Ptr Ink 112:137+ S 9 '20

How a raw material can be advertised; the Pacific lumber co. employs advertising to scout for new markets. J: A. Murphy. Ptr Ink 116:3-4+ Ag 18 '21

How advertising aids the credit seeker. B. Ashbrook. Ptr Ink 115:3-4+ Ap 14 '21

How advertising can overcome prejudice. E: M. Woolley. Ptr Ink 111:3-4+ Ap 8 '20

How advertising has demonstrated its place in the economic system. J. I. Clarke. Ptr Ink 115:65-6+ Je 30 '21

How advertising stabilized prices in up and down markets. Ptr Ink 114:33-4 Ja 13 '21

How big English advertisers began. Ptr Ink 113:85-6+ O 14 '20

How can a lost market be retaken? H. E. Agnew. Ptr Ink 112:105-6+ Ag 26 '20

How conservation of credits will affect advertising. A. R. Howell. Ptr Ink 111:25-7+ My 27 '20

How many of these advertising questions can you answer? Ptr Ink 115:42+ My 26 '21

How post-war employee problem affects advertising. Ptr Ink 115:145-6 Ap 14 '21

How the Gates rubber company snatched victory from defeat. P. Findlay. Ptr Ink 112:25-7+ Jl 15 '20

How, to-day, should salesmen talk advertising? S. C. Lambert. Ptr Ink 114:3-4+ Mr 3 '21

Ideas and the spirit board of directors. R. M. Rhodes. Ptr Ink 110:69-70+ F 19 '20

If Professor Einstein were an advertising man. T: L. Masson. Ptr Ink 111:33-4 Je 24 '20

Industrial publicity and the house organ. C: E. Carpenter. Ind Management 61:246-9 Ap 1 '21

Invention plus advertising equals success; the Klaxon campaign. C: F: Carter. Ptr Ink M 3:23+ O '21

Is advertising an economic resource? J: P. Wilder. Ptr Ink M 2:19-20 Ap '21

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Truth in advertising dominant note at Indianapolis convention. Ptr Ink 111:41-2+ Je 17 '20
Untrue that eighty-four per cent of business failures in 1920 did not advertise. Ptr Ink 116:87-8 Jl 7 '21
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What's wrong with distribution; the connection between sales and advertising. N. M. Clark. System 39:673-5+ My '21
When a business went stale by taking too much for granted. A. D. Albin. Ptr Ink 111:161-2+ Je 3 '20
When buying is three times removed. V. C. Kitchen. Ptr Ink 114:80+ Ja 27 '21
When it pays to persuade your competitor to advertise; baby chick business an industry where nearly everybody advertises. J: A. Murphy. il Ptr Ink M 3:19-20+ Je '21
Where advertising saves salesmen's work. W: H. Ingersoll. Ptr Ink 110:10, 12 Ja 29 '20
Where is advertising going? R. S. Durstine. Ptr Ink 112:65-6+ S 23 '20
Which sex buys your product? C. P. Russell. Ptr Ink M 3:38+ O '21
Why Kellogg has faith in advertising. Ptr Ink 111:17-18 My 20 '20
Why our basic industries should advertise. J. E. Bullard. Ptr Ink 111:113-14+ Ap 22 '20

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Keeping tab on how your advertising appropriation is going. Ptr Ink 113:81-2+ N 4 '20

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Reserve advertising fund for times of business depression. Ptr Ink 112:145+ Jl 22 '20
Vital thing to know about advertising appropriations. J: Sullivan. Ptr Ink 115:41-2+ Ap 14 '21
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Should competitive products be featured in the same advertisement? Ptr Ink 113:10+ O 7 '20

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How much is enough for a booklet? Ptr Ink 115:137-8 Ap 14 '21
Measuring copy writer's pay by results obtained. Ptr Ink 115:110+ My 5 '21
Wanted: average cost per inquiry. Ptr Ink 115:137+ Ap 7 '21
What the advertising dollar buys. H. L. Adams. Ptr Ink 110:41-2+ Mr 11 '20

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Dealer cooperation

Advertising built on dealer tie-ups. E: T. Tandy. Ptr Ink 113:17-20+ N 18 '20
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Dealer advertising to bridge the summer valley. R. Dickinson. Ptr Ink 115:41-2+ Je 23 '21
Dealer copy that bristles with sales ideas. R. Cole. Ptr Ink 114:82+ Ja 6 '21
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Don't use the dealer as a ventriloquist figure! J. Katz. Ptr Ink 110:41-3 Ja 15 '20
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How shall dealer helps be distributed? D. Kirkland. Ptr Ink 113:133+ D 23 '20
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Keeping your ad aid service out of the dealer's W. P. B. E: T. Tandy. Ptr Ink 116: 97-8+ Jl 7 '21
Making dealer vital cog in selling machine. Brick & Clay Rec 59:418-23 S 20 '21
Marketing a product by the easiest way; the Thermopak finds in ice cream a natural ally. Ptr Ink 111:97-8 Je 24 '20
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Tie-up is the basis of the new Sherwin-Williams campaign. C. M. Lemperly. Ptr Ink 112:49-50+ S 16 '20
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Advertising that acts as a reception committee for the new product. Ptr Ink 112: 81-2+ Jl 22 '20
After seventy-five years, successful firm adopts advertising. H. E. Agnew. Ptr Ink 112:91-2+ S 2 '20
Baby product succeeds on elder brother's reputation. Ptr Ink 111:57-8+ Ap 1 '20
Do your dealer customers scatter their buying? A. Cobb, jr. Ptr Ink 114:81-2+ Mr 17 '21
Fish firm finds big new seller in housewives' old dish. E: T. Tandy. Ptr Ink 112:17-19 S 9 '20
Group advertising helps cash in on goodwill. G. A. Nichols. Ptr Ink 114:41-2+ Ja 13 '21
How Corticelli makes advertised leader work for whole line. R. Cole. Ptr Ink 117:49-50+ O 13 '21
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Making your advertising leader profitable. W: R. Basset. Ptr Ink M 3:15-16+ O '21
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New uses add big general market to a restricted one; how Kenwood blankets and comfort products sprang from woolen felt belting. E: T. Tandy. Ptr Ink 116:97-8+ S '21
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To change name of product and preserve good-will. Ptr Ink 113:117-18 N 25 '20
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When a business outgrows its short pants; how Van Raalte solved the problem of expansion. E: T. Tandy. Ptr Ink 113:93-4+ D 9 '20
When the product is ready the market will be. H. E. Agnew. Ptr Ink 116:112+ Jl 14 '21
Which—the family of products or the bachelor product. Ptr Ink 116:68+ S 15 '21
Why have so many products in the line? C. M. Lemperly. Ptr Ink 113:101-2+ N 11 '20

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Uncle Sam likely to champion truth in advertising. Ptr Ink 110:125-6 F 26 '20
Use of government endorsement for advertising purposes specifically prohibited by recent ruling. Ptr Ink 113:109-10 D 23 '20
What recourse, if advertising phrases are copied? Ptr Ink 113:144+ N 18 '20

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Adding an advertiseable specialty to lead the unknown line. Ptr Ink 113:116+ O 7 '20
Creating toilet preparations to sell big drug line. E: T. Tandy. Ptr Ink 115:33-4+ My 26 '21

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Prize contests

Are contests successful to-day? R. L. Burdick. Ptr Ink 112:73-4+ S 9 '20
Building the contest around the dealer. Ptr Ink 117:129-30 O 27 '21
Intensive work with dealers keeps Blabon running at capacity. R. Cole. Ptr Ink 117: 72+ O 6 '21
One way to impress a raw material on a dealer's mind; prize contest for shoe dealers. Ptr Ink 110:61+ Ja 29 '20

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Relation of the prize contest to sales. R. Cole. Ptr Ink 114:41-4+ F 3 '21
To prove to dealers that advertising interests their customers, West coast lumbermen's association institutes prize contest. W. Brindley. Ptr Ink 116:65-6 S 15 '21
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Protest against wide differences in local and national advertising rates. Ptr Ink 115:17-20 Ap 14 '21
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Will the advertising tax bill go through? Ptr Ink 110:69-70+ Mr 25 '20

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Bottle makers undertake unusual co-operation. H. E. Agnew. Ptr Ink 113:25-7 D 23 '20
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How advertising can keep down potential competition; car wheel makers find value in educational publicity. Ptr Ink 115:121-2 Je 9 '21
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Centralized or dealer-controlled foreign advertising? P. D. Davis. Ptr Ink 116:85-7 Jl 21 '21
Copy that won't translate literally in foreign languages. A. J. Wolfe. Ptr Ink 112:57-8+ Ag 12 '20
Dodging the dilemma of trade name translation in Latin America. Ptr Ink 110:85-6 Ja 8 '20
Doing as the Romans do, but in a new way; how Guaranty trust company in England has vitalized its advertising. C. P. Russell. Ptr Ink 112:81-2 Ag 26 '20
Experience in foreign automobile advertising. F: Dickinson. Automotive Ind 44:1118-21 My 26 '21
Export publicity methods. A. J. Wolfe. Am Ind 20:37-9 My '20
Exporting iron and steel; foreign advertising. V. G. Iden. il Iron Tr R 67:1675-9 D 16 '20
Honest advertising to aid American products. R. G. Owens. Ptr Ink 110:174+ Ja 8 '20
Horse sense in foreign advertising. R. Dickinson. Ptr Ink 110:97-8+ F 26 '20
How to use the foreign mail service in export. E. Sands. Ptr Ink 113:89-90+ O 28 '20
Latin America as a side issue. J. H. Collins. Ptr Ink 111:69-72 Ap 22 '20
Pioneer in export publicity. A. J. Wolfe. Am Ind 21:35-6 S '20
Points that sell goods in South American copy. R. B. Lockwood. Ptr Ink 111:124+ Je 17 '20
Publicity for American products in the foreign field. D: Beecroft. Automotive Ind 42:1219-21 My 27 '20
What to expect from a foreign advertising appropriation. A. B. Cole. Ptr Ink 115:117-18+ My 12 '21
What you may expect from foreign advertising. A. B. Cole. Automotive Ind 44:1216-18 Je 9 '21
Where advertising and high-priced dollars won't mix. G. A. Nichols. Ptr Ink 114: 124+ Ja 6 '21

Advertising, Fraudulent
Cleaning up the patent-medicine and other evils. E: W. Bok. Ptr Ink 113:129-30+ O 7 '20
Congress to curb fraudulent advertising in foreign trade. J. B. Powell. Ptr Ink 116: 73-4+ Jl 7 '21
Consumer wants clean advertising. Ptr Ink 114:83-4 Mr 24 '21
Dark ways of the ad fakir. W. B. Powell. Nation's Business 8:30-2 N '20
Elimination of fake oil securities. R: H. Lee. Nat Pet N 12:52+ Mr 17 '20
Review of the ten-year fight against fraudulent advertising. R. Cole. Ptr Ink 114:17-20+ F 24; 121-2+ Mr 3 '21
Warning to dishonest advertisers and fake publicists. Ptr Ink 112:12 Ag 5 '20
What vigilance work has accomplished under the Printers' ink statute. A. E. Haase. Ptr Ink 115:44+ Je 16 '21
Why the truth in advertising should interest bankers. Ptr Ink 114:93-4 Mr 3 '21

See also Advertising—Laws and regulations; Advertising ethics

Advertising, Government. See Government advertising

Advertising, Institutional
Advertising that acts as a reception committee for the new product. Ptr Ink 112:81-2+ Jl 22 '20
Advertising to dig up complaints from customers; Fairbanks, Morse & co. Ptr Ink 114:133+ Mr 24 '21

Advertising, Institutional—*Continued*
Advertising to market a professional service; Wells bros. advertise to sell fee principle to prospective builders. S. C. Lambert. Ptr Ink 111:41-2+ Je 10 '20
Attack turned into an advertising asset. Ptr Ink 115:17-18 Ap 28 '21
Continuity in advertising builds prestige. L. B. Jones. Ptr Ink 112:97-8 Jl 29 '20
Double-service advertising builds prestige and develops uses; a campaign to sell air instead of blowers. H: Burwen. Ptr Ink 112:65-6+ Ag 12 '20
Goulds advertises to win public appreciation of pumps. A. D. Albin. Ptr Ink 110:69-70+ F 12 '20
How manufacturer's advertising can regulate the retailer; Kahn tailoring co. emphasizes its trade-mark for self protection while helping dealer. Ptr Ink 116:81-2 Ag 4 '21
Hyatt goes afield to bolster tractor salesmen. G. A. Nichols. Ptr Ink 113:49-50+ O 7 '20
Institutional advertising by the historical method. il Ptr Ink 111:25-7 Ap 22 '20
Institutional advertising, not for the house, but for the product. C. P. Russell. Ptr Ink 110:95-6 Ja 22 '20
Making welfare copy believable; advertising that sells the community and gets new workers. R. Dickinson. Ptr Ink 110:169+ Mr 11 '20
Oversold campaign that builds good will for an entire industry; Western electric company finds the golden rule works. H. T. Mitchell. Ptr Ink 112:3-4+ S 23 '20
Study pure science, urges General Electric. Ptr Ink 113:125-6+ N 25 '20
Training the college mind toward General Electric. A. P. Cooke. Ptr Ink 112:89+ S 16 '20
Turning employee stock ownership facts into an advertising appeal. Ptr Ink 116:79-80 Ag 25 '21

See also Publicity

Advertising, International
Helping a world organization to advertise. R. Giles. Ptr Ink 113:77-8+ N 18 '20

Advertising, Juvenile
Advertising to the grown-up of to-morrow. L. Peake. Ptr Ink M 2:80+ Ja '21
Campaign to little shavers; maker of Enders safety razor looks ahead. Ptr Ink 114: 110 F 3 '21
Dodging fathers' objections in advertising to sons. R. L. Burdick. Ptr Ink 113:77-8+ D 30 '20
Getting advertising messages over to children. E: T. Tandy. Ptr Ink 113:157-8 O 21 '20
How Marshall Field & co. cater to the coming generation. Ptr Ink 110:155-6+ F 5 '20
Nursery rhymes to sell ice-cream to children. Ptr Ink 116:33-4+ Ag 18 '21
Something new in advertising a highly competitive product. Ptr Ink 112:10+ Ag 19 '20
What kind of advertisements do boys like? H. A. Wade. Ptr Ink M 2:32+ D '20

See also Toys—Advertising

Advertising, Mail
Direct advertising. R. E. Ramsay. Inland Ptr 68:195-7 N '21
Direct-mail advertisers increase service for members. Ptr Ink 113:53-4+ N 4 '20
Direct-mail campaign increases business 200 per cent in six months. C. P. Russell. Ptr Ink M 3:53-4 Je '21
Envelope enclosure—medium of a hundred uses. R. K. Sewell. Ptr Ink M 2:74+ Ja '21
Hoover sweeper analyzes effectiveness of advertising appeal. M. L. Pierce. Ptr Ink 113: 137-8 O 28 '20
How bonds are sold by mail. C. M. Harrison. Ptr Ink 115:73-4+ My 5 '21
How do stamped return envelopes influence replies? Ptr Ink 113:162+ D 16 '20
How stocks are sold by mail on partial payment plan. C. M. Harrison. Ptr Ink 115:115-16+ Je 30 '21
How to use the foreign mail service in export. E. Sands. Ptr Ink 113:89-90+ O 28 '20
Human interest advertising even in clothing samples. Ptr Ink 114:73-4 Mr 31 '21
Increasing sales in slack times, convention slogan of Direct advertisers. Ptr Ink 117: 105-6+ N 3 '21
Letterheads match catalogues in this follow-up plan. E. H. Falkner. Ptr Ink M 2: 66, 69, 71 Ap '21
Making 'em call him mister again. A. G. Brenton. Inland Ptr 66:753-5 Mr '21
Personalized direct mail that lands $200 orders. J: Y. Beaty. il Ptr Ink M 2:32-3+ Ap '21
Preparing for national advertising with a direct-mail foundation. F. G. Adams. Ptr Ink 117:105-6 O 27 '21
Red or green stamps on direct mail advertising? Ptr Ink 116:26-7 Jl 28 '21
Retail chain and catalogue join in selling effort; Harsh and Chapline shoe company. Ptr Ink 115:124+ Ap 14 '21
Selling by mail two million army field caps. Ptr Ink 115:119-20 Ap 21 '21
Selling by the printed word. R. Ruxton. Ptg Art 37:143-54 Ap '21
Selling the consumer via the dealer by direct mail. A. E. Haase. Ptr Ink 112:35-6 Jl 15 '20
Signs that dealers will use on back of mailing pieces. Ptr Ink 113:154+ D 16 '20
Unusual plan for distributing advertising through jobbers. Ptr Ink 115:17-18 My 26 '21

See also Catalogs; Follow-up systems; Mail order business; Mailing lists; Sales letters

Advertising, Municipal. See Municipal advertising

Advertising, National
Advertisers must learn how consumer acceptance operates. G: A. Nichols. Ptr Ink 112:113-14+ S 9 '20
Advertising that crosses lots in getting product to the consumer. Ptr Ink 112:85-6 Jl 15 '20
Apartments must be larger to accommodate twin beds. C. M. Harrison. Ptr Ink 113:26-7+ O 7 '20
Creating a market by setting people up in business. R. Cole. Ptr Ink 111:3-4+ My 13 '20
How a nation-wide business was built for Rawlplugs during 1921. W. R. Howard. Ptr Ink 117:125-6+ N 3 '21
How Cracker Jack came to follow the circus into town. F. E. Ruhling. Ptr Ink 115:76+ Ap 7 '21
Interlocking campaign for industrial and household sales. C. E. Duffie. Ptr Ink 111: 97-8+ Ap 8 '20
Largest non-retailing shoe firm turns to consumer advertising. E: T. Tandy. Ptr Ink 112:41-2+ S 30 '20
Marketing an article of prohibitive price. R. Cole. Ptr Ink 111:17-20 Je 3 '20
National advertising to find unknown users. E: A. Muschamp. Ptr Ink 113:138+ D 9 '20
National campaign of advertising for Kresge stores. Ptr Ink 111:17-20+ Ap 1 '20
Nationally advertised articles the most profitable for jobbers to handle. J. S. Goldbaum. Ptr Ink 110:129-30+ Ja 1 '20
One man did two men's work with help of advertising. S. C. Lambert. Ptr Ink 110:154+ Ja 8 '20
Opportunities in fields hitherto unadvertised; Martex towels. W: L. Day. Ptr Ink 113: 134+ O 21 '20
Pal pencil gets national distribution in sixty days. R Cole. Ptr Ink 115:17-20 Je 2 '21
People have become standardized by advertising. J. M. Campbell. Ptr Ink 112:10+ Jl 29 '20
Promotion work that backs up the national advertising. Ptr Ink 114:33-5 Ja 20 '21
Rise of Clicquot club through advertising. E: S. Price. Ptr Ink 115:189+ Ap 28 '21
Shortest cut to successful advertising. R. A. Hardy. Plumber 95:332-3 Je 3 '21
Should the advertiser list the retail price? H. L. Winn. Ptr Ink 111:153+ My 20 '20
Sidelight on landing the big customer: big barber chain adopts Mennen's shaving cream and is featured in Mennen national advertising. Ptr Ink 111:93-4 Je 10 '20

Advertising, National—*Continued*
Special brands go begging in face of national advertising. Ptr Ink 112:76+ Ag 5 '20
To sell the customer you can't get to. R. Cole. il Ptr Ink M 2:35-6+ F '21
Trust companies begin national campaign. Ptr Ink 113:105-6 D 9 '20
Walter M. Lowney had abiding faith in the national market. Ptr Ink 115:25-7 Ap 14 '21
Why Printz-Biederman business is ahead of last fall. E. J. Ensten. Ptr Ink 117:33-4+ O 6 '21
Why we are pushing sales now—and getting them. W: Wrigley, jr. System 40:397-401+ O '21

Advertising, Professional. See Professional advertising

Advertising, Soliciting of
Being kind to the advertising solicitor. C. P. Russell. Ptr Ink 115:33-4+ Ap 28 '21
Fifty-seven varieties of space sellers. P. C. Gunion. Ptr Ink 113:117-18+ D 23 '20
Missionary work of the newspaper advertising salesman. H. W. Smith. Inland Ptr 65: 41-2 Ap '20
On the landing of new accounts. Ptr Ink 113: 89-90+ O 7 '20
Soliciting advertising thirty years ago. Ptr Ink 113:41-2+ O 28 '20
Space buyers should be publication analysts. Ptr Ink 110:93-4+ Ja 8 '20
Space seller's obligation to his clients. W. S. Lockwood. Ptr Ink 110:77-8 Mr 25 '20

Advertising, Trade union
Ideas or industrial warfare? R. Dickinson. Ptr Ink 116:33-4, 36 S 29 '21
Unions help in advertising move to stimulate building. Ptr Ink 116:133-4+ Ag 25 '21

Advertising agencies
Advertising agency's part in developing foreign trade. F. A. Arnold. Ptr Ink 111:97-8+ My 13 '20
Agencies and publishers draw together for advertisers' good. C. Armstrong. Ptr Ink 111:57-8+ Je 17 '20
Better market study the way to better advertising. L. D. H. Weld. Ptr Ink 111:3-4+ Je 10 '20
Dark ways of the ad fakir. W. B. Powell. Nation's Business 8:30-2 N '20
Do agencies carry insurance on clients' merchandise? Ptr Ink 112:73-4 Ag 5 '20
Emblem of advertising agency obtains federal credentials. Ptr Ink 110:17-18 Ja 29 '20
How agencies work to catch issues for all their accounts. Ptr Ink 113:26-7 O 14 '20
Joint commission to improve agency standards. T. W. Le Quatte. Ptr Ink 111:141-2+ Je 10 '20
Move against rebates to advertisers direct. C. Armstrong. Ptr Ink 111:10+ Ap 8 '20
Standard order blank. R. Dickinson. Ptr Ink 113:49-50+ O 14 '20
Supreme court holds publisher may refuse dealing with advertising agency. Ptr Ink 111:129+ My 13 '20
What is agency practice as to cash discounts? Ptr Ink 113:157-8 O 14 '20

Advertising
British service agencies tell how they help manufacturers. T: Russell. Ptr Ink 114:89-90 Ja 20 '21

Advertising agencies, American association of. See American association of advertising agencies

Advertising and bankers
Advertising and the bankers' attitude toward it. W. T. Mullally. Ptr Ink 117:69-70+ N 3 '21
Bank's attitude toward advertising. R. Dickinson. Ptr Ink 116:3-4+ Jl 21 '21
How advertising looms up in bankers' minds today. J: Fletcher. Ptr Ink 117:3-4+ O 27 '21
Why banks don't know value of commercial advertising. R. D. Brigham. Ptr Ink 116: 42+ S 1 '21
See also Bank advertising

Advertising and employees
Teaching the workers what advertising does. Ptr Ink 112:19-20 Jl 1 '20
Using your copy inside the plant. R. Dickinson. il Ptr Ink M 2:21-2+ Ap '21
Western clock company tells workers why it advertises though oversold. R. Dickinson. Ptr Ink 112:89-90 Jl 22 '20
See also Employment management—Advertising aids; Employment systems—Advertising; Industrial relations—Advertising aids

Advertising as a profession
Advertising as a career for college men. H. S. Houston. Ptr Ink 110:105-6+ Mr 4 '20
Advertising man—an estimate. C. M. Lemperly. Ptr Ink 115:81-2+ My 19 '21

Advertising booklets. See Advertisements—Books and booklets

Advertising cards. See Show cards

Advertising clubs, Associated. See Associated advertising clubs

Advertising contests. See Advertising—Prize contests

Advertising departments
De-centralized advertising department—what has happened to it? J: P. Wilder. Ptr Ink M 3:40+ Je '21
Optimism must be tempered by sound judgment. L. Allen. Ptr Ink 113:69-70 D 23 '20
Putting longer legs on the advertising dollar. A. H. Deute. Ptr Ink 111:125-6+ Je 10 '20
System for advertising men. G: W. Allen. il Gas Age 45:237-40, 324-6, 430-2 Mr 10, Ap 10, My 10 '20
$250,000 building dedicated to Pratt & Lambert advertising. C. B. McCuaig. il Ptr Ink M 3:109+ Je '21
What becomes of your old drawings?; suggestions for filing and rehabilitation of used original advertising illustrations. Ptr Ink 116:89-90 Ag 11 '21
See also Advertising managers; Advertising policies

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When salesmen and advertising are not on speaking terms. Ptr Ink 114:145+ Ja 13 '21

Advertising ethics
Copy ethics and the fictitious instance. L. R. Alwood. Ptr Ink 116:41-3 Jl 28 '21
Ethics of advertising. M. E. Hixson. J Elec 44:65 Ja 15 '20
Honest advertising won't sell dishonest goods. A. E. Haase. Ptr Ink 112:101-2+ Jl 22 '20
Telling the whole truth is not a whit too much. R. H. Lee. Ptr Ink 112:41-2+ S 23 '20
Truth, advertising and better merchandise. G: French. Ptr Ink 110:152+ F 12 '20
See also Advertising, Fraudulent

Advertising funds. See Advertising—Appropriations

Advertising managers
Advertising manager must first be a salesman. Ptr Ink 113:122+ O 28 '20
Bread-and-butter problems of the advertising man. G. K. Brown. Ptr Ink M 3:26+ O '21
Seven years in the office—three weeks on the road. R. Barstow. Ptr Ink 113:84+ N 11 '20
Where should an advertising manager's prerogatives stop? S. C. Lambert. Ptr Ink 113: 160+ O 14 '20

Advertising mediums
Big sales from a small advertising appropriation. Ptr Ink 114:33-4 F 3 '21
Buyer's hunch. W. E. Humelbaugh. Ptr Ink 115:133-4 Ap 28 '21
Circulation: its duplication and verification. G. F. Hobart. Ptr Ink 110:33-5 Mr 18 '20
Dangers of advertising specifics. Ptr Ink 115: 89-90 Ap 28 '21
Dealers! why not cash in on those magazine approvals? K. Maddock. il Elec R 79:663-4 O 29 '21
How English advertisers choose mediums. T: Russell. Ptr Ink 110:89-90 Mr 18 '20

Advertising mediums —*Continued*
How long does an advertisement live? F. E. Duggan. Ptr Ink 115:81-2+ My 5 '21
Keener judgment needed in buying space. J: A. Murphy. Ptr Ink 114:3-4+ Ja 20 '21
Next to advertising matter; a view into the future, when values are reversed. Ptr Ink 112:41-4 Jl 15 '20
Scientific space selection. 167p Audit bureau of circulations, Chicago '21
What the space buyer wants to know. G. F. Hobart. Ptr Ink 111:105-6 Ap 15 '20
See also Moving pictures in advertising

Farm papers
Milline rate of a piece of cheese. Ptr Ink 117:149-50+ O 20 '21

Newspapers
Background shrubbery. F. T. Singleton. Ptg Art 37:542-6 Ag '21
Borden uses newspapers intensively to round out campaign. Ptr Ink 114:108+ Mr 10 '21
Creating more advertising. G. L. Caswell. Inland Ptr 66:363-4 D '20
How advertisers are developing the possibilities of the newspaper. C. B. Larrabee. Ptr Ink M 3:27-30+ Je '21
How our agency buys space in newspapers and magazines. Ptr Ink 111:34-6+ My 20 '20
Newspaper advertising. H. W. Angus. il J Elec 45:185-7, 218-19 Ag 15-S 1 '20
Standardizing newspaper advertising methods and practices. C. Armstrong. Ptr Ink 113: 173+ O 21 '20
What a study of advertising lineage would teach space buyers. G. S. Osborn. Ptr Ink 114:10+ Mr 10 '21

Newspapers, Company
You can't sell against that competition. L. Miller. System 39:676-8+ My '21

Programs
Moral: hitch your copy to the stars. O. C. Harn. Ptr Ink 110:170+ Mr 4 '20

Trade papers
Crain's market data book, and directory of class, trade and technical publications. 462p G. D. Crain, 417 S Dearborn St., Chicago '21
To get a message to the dealer's salesmen. Ptr Ink 113:50+ O 28 '20
Trade- and class-paper advertising. Ptg Art 38:45-9 S '21

Advertising men. See Advertising as a profession; Advertising managers

Advertising novelties
Advertising novelties that interest the dealer. L. Peake. Ptr Ink M 3:104-5 O '21
Every printshop a novelty advertising house. F. H. Williams. Ptg Art 37:521-5 Ag '21
Making sales the friendly way; how Errett, the lily cup man, uses advertising specialties. D. W. Kingsley. Ptr Ink M 2:32+ Ja '21

Advertising policies
Advertising policy is not a thing apart. R. Dickinson. Ptr Ink 112:3-4+ Ag 19 '20
Case for single product advertising. Ptr Ink 114:53-4+ Mr 17 '21
Data on which advertising policies are built. C: Stirrup. Ptr Ink 116:55-6 Ag 25 '21
Greater efficiency per agate line. Ptr Ink 115: 117-18+ My 5 '21
How can consumer advertising best be merchandised? G. A. Nichols. Ptr Ink 115:57-8+ Je 9 '21
Increasing sales by advertising the industry. E: T. Tandy. Ptr Ink 114:49-50+ Mr 24 '21
Parts manufacturer advertises the whole product. Ptr Ink 113:154-8 N 4 '20
Reason why advertising must be okayed by more than one man. Ptr Ink 114:10+ Ja 13 '21
Reason why advertising should be okayed by one man. W. T. Sangston. Ptr Ink 114:137 Ja 27 '21
Should branch managers have a voice in advertising policies? C. M. Lemperly. Ptr Ink 112:17-18 S 2 '20
When the advertising comes up at the salesmen's convention. F. L. Scott. Ptr Ink 117: 133-4+ N 3 '21
Where the personnel decides the policies. C. M. Harrison. Ptr Ink 113:3-4+ N 25 '20
See also Advertising—Competitive products; Advertising—Family of products; Advertising, Educational; Advertising departments; Seasonal products—Advertising

Advertising rates. See Advertising—Rates

Advertising scouts
Advertising scouts watch the consumer at close range. A. L. Chapman. Ptr Ink 113: 166+ N 4 '20

Aeration of sewage. See Sewage disposal—Activated sludge process

Aeration of water. See Water aeration

Aerial bombs. See Bombs, Aerial

Aerial cables. See Electric cables

Aerial derby around the world
Aerial derby around South American continent and circuit of the Atlantic to be annual events. A: Post. il Flying 9:161-3 Ap '20
Aerial derby around the world to be made an annual event. il Flying 9:17-20 F '20
China welcomes commission organizing first Aerial derby around the world. il Flying 9: 23-5, 104-7, 187-9 F-Ap '20
First aerial derby around the world. H: Woodhouse. Flying 8:835-7, 914-17, 991-4; 9:44-7, 113-15 N '19-Mr '20
Rules and regulations. Flying 8:838-9 N '19
World welcomes commission organizing first Aerial derby around the world. il Flying 9:257-61, 326-30, 386-8, 466-7, 508-9, 576-81, 635-7, 683-5+, 732-4; 10:28-30, 67-9, 107-9+, 147-9 My '20-My '21

Aerial fish patrol. See Fish patrol, Aerial

Aerial forest fire patrol. See Forest fire patrol, Aerial

Aerial league of America
Aerial league of America's stupendous campaign to popularize aeronautics, establish airports and extend the aerial mail service by organizing a unit in every community, university and organization. Aerial Age 12: 143 O 11 '20
Agreement form for Aerial league of America units. Aerial Age 12:175 O 18 '20
Organization plan for the units of the Aerial league of America. Flying 9:570-1 O '20; Same. Aerial Age 12:144-6 O 11 '20

Aerial league of the world
Aerial league of the world organized. Flying 9:528-9 S '20; Same. Aerial Age 11:797+ Ag 23 '20

Aerial lighthouses. See Aerial routes—Lighting

Aerial photography. See Photography, Aerial

Aerial police. See Police, Aerial

Aerial routes
Air service adopts location marker. il diag Aviation 10:527 Ap 25 '21
Charting the air. W: Mitchell. Aerial Age 13:39 Mr 21 '21
Climatological factors governing the selection of air routes and flying fields. C. L. Meisinger. Aerial Age 12:368-9+ D 13 '20; Same. Aviation 9:423-5 D 13 '20; Same. Sci Am M 3:68-70 Ja '21
First airway guide. Aviation 10:755 Je 13 '21
How to establish an airway. Aerial Age 13: 276-7 My 30 '21
See also Air ports

Lighting
Aerial lighthouses. il diags Engineer 129: 500-1 My 14 '20; Same. Sci Am M 2:170-1 O '20
Le balisage lumineux des routes aériennes pour la navigation nocturne. diags Génie Civil 79:111-12 Jl 30 '21
Luminous beacons. Aerial Age 13:374 Je 27 '21

Aerial routes —*Continued*

Africa

Cairo-Cape air route. il map Flying 9:324-5 Je '20

Arabia

Conquest of Arabian desert by aircraft. Aerial Age 14:208 N 7 '21; Same. Aviation 11:535 N 7 '21

Canada

Trans-Canada air route. Aviation 11:488 O 24 '21

Europe

London - Paris - Toulouse- Rabat- Casablanca route. Aviation 9:349 N 29 '20

Les transports aériens entre Paris et Londres. Génie Civil 76:577-8 Je 26 '20

Italy

Italian air routes and ports. Aviation 11: 190-1 Ag 15 '21

New York (state)

National airways centre in New York. Aerial Age 13:484-5 Ag 1 '21

Peru

Pacific to Amazon air route reconnaissance. Aerial Age 13:64 Mr 28 '21

United States

Aeronautic roads. S. B. Ladd. diags map Aerial Age 13:563-4 Ag 22 '21

America's first model airway. map Aviation 10:267, 270 F 28 '21; Same. Flying 10:63-4 Mr '21; Excerpts. Soc Auto Eng J 8:330 Ap '21

First American commercial dirigible line. C. A. Tinker. Aerial Age 13:202-3 My 9 '21

Hudson Valley air line organized. Aerial Age 13:6 Mr 14 '21

Information for pilots, giving the practical characteristics of the land along various air routes. Aerial Age 14:107-9, 132-4, 152-4, 181, 204-6 O 10-N 7 '21

Mapping the aerial routes. T. N. Sandifer. il Flying 9:711-12 Ja '21; Same abr. Aerial Age 12:493+ Ja 17 '21

Opening exercises of America's first airway. il Aviation 10:376 Mr 21 '21

System of airways urged. Aerial Age 13:438 Jl 18 '21

West Indies

Aeromarine West Indies airways. Aviation 10:115 Ja 24 '21

Key West-Havana air line inaugurated. il Aerial Age 12:249-50 N 8 '20; Aviation 9:226-7+ N 1 '20

Aerial surveying. See Surveying, Aerial

Aerial tramways. See Cableways

Aerial transport corporation

Group of progressive Americans organizing aerial transportation lines throughout the United States, unable to get deliveries of aeroplanes of American manufacture, acquire large number of aeroplanes from British government. Flying 9:334-5 Je '20

Aero club of America

Courts asked for injunction to help aero club maintain its national leadership. Flying 9:152-6, 512-16+, 582-5 Ag-O '20; Same abr. Aerial Age 11:671-3+, 798-9+, 863-4+; 12: 134-5+, 166 Jl 26, Ag 23, S 6, O 11-18 '20

11th annual meeting, New York, Nov. 8. Aviation 9:298 N 15 '20

Evidence of conspiracy to destroy Aero club of America submitted to the Supreme court of New York. Aerial Age 11:703-5+, 734-5, 745-6+ Ag 2-9 '20

Purposes of irregular meeting of A. C. A. called for August 16, violate New York state laws. Aerial Age 11:765-7+ Ag 16 '20

Aerodromes (fields). See Aviation fields

Aerodynamic balances

Aerodynamical torsion balance. A. F. Zahm. il diag J Fr Inst 189:463-8 Ap '20

Bifilar windbalance. A. F. Zahm. il diags J Fr Inst 192:233-7 Ag '21

Cross-arm wind-balance. A. F. Zahm. il J Fr Inst 190:685-90 N '20

Design of recording wind tunnel balances. F. H. Norton. diags Aviation 10:145-6 Ja 31 '21; Same. Aerial Age 12:511-12 Ja 24 '21

Determination of the resistance of airship models. R. H. Smith. Aviation 9:44-7 Ag 15 '20

Method for determining the angular setting of a tail plane to give balance at any given condition. L. V. Kerber and W. F. Gerhardt. diag Aerial Age 12:370-3 D 13 '20

Wind tunnel balances. E: P. Warner and F. H. Norton. il U S Nat Advisory Com for Aeronautics 1919:613-48 '20

Aerodynamic laboratories

Aeronautic research laboratory at the Institute of St Cyr. J: J. Ide. il diag Automotive Ind 44:853-5 Ap 21 '21

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Classification system of library. J. R. Kelley. Eng & Contr 55:595 Je 15 '21

American electric railway claims association
Annual convention, Atlantic City, Oct. 3-5. Elec Ry J 58:735-7 O 22 '21
Meetings, Atlantic City, Oct. 11-14. Elec Ry J 56:908-21 O 30 '20

American electric railway engineering association
Annual convention, Atlantic City, Oct. 3. Elec Ry J 58:624-42 O 8 '21
Assignments and appointments. Elec Ry J 55:61 Ja 3 '20
Meeting, Atlantic City, N.J., Oct. 11-14. Elec Ry J 56:824-34 O 16 '20

American electric railway transportation & traffic association
11th annual convention, Atlantic City, Oct. 11-14. Elec Ry J 56:812-23 O 16 '20
12th annual convention, Atlantic City, Oct. 3-7. Elec Ry J 58:643-55 O 8 '21

American electrochemical society
Fall meeting, Lake Placid, N.Y., Sept. 29-Oct. 1. J. W. Richards. J Ind & Eng Chem 13:1076-8 N '21
36th general meeting, Chicago, Sept. 23-26. Chem & Met Eng 21:520-7 O 22 '19
37th general meeting, Boston, April 8-10. Chem & Met Eng 22:725-34 Ap 21 '20; Elec R 76:657-60 Ap 17 '20; Elec W 75:917-19 Ap 17 '20; Iron Age 105:1105-9 Ap 15 '20; Iron Tr R 66:1118-19 Ap 15 '20; Foundry 48:343-4 My 1 '20; J Ind & Eng Chem 12:503-5 My '20
38th general meeting, Cleveland, Sept. 30-Oct. 2. Chem & Met Eng 23:719-26 O 13 '20; Iron Age 106:903-5 O 7 '20; Iron Tr R 67:984 O 7 '20
39th general meeting, Atlantic City, N.J., April 21-23. Iron Age 107:1119-22 Ap 28 '21; Iron Tr R 68:1166 Ap 28 '21; Chem & Met Eng 24:813-20 My 11 '21; Metal Ind 19:198 My '21
40th general meeting, Lake Placid, N.Y., Sept. 29-Oct. 1. Iron Age 108:879-81 O 6 '21; Blast F & Steel Pl 9:673 N '21

American electroplaters' society
Convention; a description of the plating and finishing shops of Rochester, N.Y. G. B. Ellis. il Metal Ind 18:255-61 Je '20
8th annual convention, Rochester, N.Y., July 1-3. Metal Ind 18:303-7 Jl '20; Chem & Met Eng 23:125 Jl 21 '20
9th annual convention, Indianapolis, June 29-July 2. Brass W 17:185-92 Jl '21; Chem & Met Eng 25:122 Jl 20 '21
9th annual convention, Indianapolis, Ind., June 29-July 2. E. Bullock. Metal Ind 19: 229-35, 269-73 Je-Jl '21
9th annual convention; program. Brass W 17: 128-33 My '21

American engineering council. See Federated American engineering societies—American engineering council

American engineering societies, Federated. See Federated American engineering societies

American engineering standards committee
Activities of American engineering standards committee. Am Mach 53:400-1 Ag 26 '20
Activities of American engineering standards committee. P. G. Agnew. N E L A Bul 8:244-5 Ap '21
Activities of the American engineering standards committee. Mach 26:647, 1179-80; 27: 778 Mr, Ag '20, Ap '21
American engineering standards committee. A. A. Stevenson. Am Soc Heat & V E J 26: supXLIII-XLIX S '20; Abstract. Min & Met 162:13-14 Je '20
Report. Elec Ry J 57:734-5 Ap 16 '21; Eng & Min J 111:757 Ap 30 '21; Eng N 86:729-30 Ap 28 '21; Am Mach 54:784 My 5 '21
What is now being done, nationally and internationally, and how the work is handled. Iron Age 105:1258-9 Ap 29 '20

American farm bureau federation
American farm bureau federation's proposal of credit to Germany—criticisms of the plans. Comm & Fin Chr 111:2178-9 D 4 '20
Farmer's protest against the high cost of distribution. J. R. Howard. Ptr Ink 112:3-4+ Ag 12 '20
How will marketing organizations affect methods of distribution? C. W. Burkett. Ptr Ink 115:116+ Je 23 '21
Making farmers a national force. J. R. Howard. Am Ind 21:16-18 Ja '21
Relation of the farm bureau movement to marketing and advertising. G: A. Cullen. Ptr Ink 112:121-2+ Ag 19 '20

American federation of arts
Convention, New York. B: J. Lubschez. Am Inst Arch J 8:258-9 Jl '20

American federation of labor
40th convention, Montreal, June 7. Monthly Labor R 11:380-3 Ag '20
41st annual convention, Denver, Colo., June 13-25. Comm & Fin Chr 112:2709 Je 25 '21; Monthly Labor R 13:413-16 Ag '21
See also Loyal labor legion of New York city

American foundrymen's association
All ready for Columbus convention. il Foundry 48:709-16+ S 15 '20
25th annual meeting, Columbus, Oct. 4-8. Iron Tr R 67:911-14 S 30 '20; Foundry 48:799-806 O 15 '20; Am Mach 53:788f-g+ O 21 '20; Chem & Met Eng 23:765-7 O 20 '20; Iron Age 106:988-95, 1049-53 O 14-21 '20; Iron Tr R 67:1055-60 O 14 '20; Metal Ind 18:443-7 O '20; Mech Eng 42:724 D '20

American freight claim agents' association. See American railroad association—Freight claim agents' section

American gas association
Emergency gas conference, New York, May 17. Gas Age 45:493-9 Je 10 '20
Functions of A. G. A. sections. Am Gas J 115:54-5+ Jl 16 '21
Gas companies will not again have the control they have had of the movement of gas-burning merchandise to their consumer. C: W. Person. Am Gas Eng J 112:319-20+ Ap 24 '20
Gas company members. Gas Age 47:349-50 Ap 25 '21
How the A. G. A. helped gas industry. O. H. Fogg. Gas Age 46:333-5 N 10 '20
Ideals of the American gas association. O. H. Fogg. Am Gas J 115:51-2 Jl 16 '21
Mission of the American gas association. G: B. Cortelyou. Am Gas Assn General Sessions sec v 2:17-25 '20; Same. Am Gas Eng J 113:431-3 N 20 '20; Same cond. Gas Age 46:408-9 N 25 '20
National clearing house for ideas. W. S. Greenough. Am Gas J 115:60-1 Jl 16 '21
Prospects and performance. G: B. Cortelyou. Gas Age 46:465-6 D 10 '20

American gas association—*Continued*
2d annual convention, New York, Nov. 15-18. Gas Age 46:397-407, 465-7 N 25-D 10 '20; Am Gas Eng J 113:417-18 N 20 '20
Special session meetings at 2d annual convention, New York. Gas Age 46:437-41 N 25 '20
Technical section, A.G.A., making headway. Am Gas J 114:463-4 My 28 '21
What the American gas association has accomplished. Am Gas J 115:49-50+ Jl 16 '21

American gear manufacturers association
4th annual meeting, Detroit, April 29-May 1. Iron Age 105:1311-14 My 6 '20; Mach 26: 925 Je '20
4th annual meeting, Detroit, April 29-May 1. P. M. Heldt. Automotive Ind 42:1048-50 My 6 '20
5th annual convention, Cincinnati, April 27-30. Iron Age 107:1183-6 My 5 '21; Am Mach 54:800f My 5 '21; Iron Tr R 68:1260 My 5 '21; Mach 27:950 Je '21; Mech Eng 43: 424-5 Je '21
5th annual convention, Cincinnati, April 27-30. P. M. Heldt. Automotive Ind 44:945-9 My 5 '21
Semi-annual convention, Rochester, N.Y., Oct. 13-15. Am Mach 55:657-8 O 20 '21; Iron Tr R 69:1026-7 O 20 '21; Iron Age 108:1001-6 O 20 '21; Mach 28:200-1 N '21
Semi-annual convention, Rochester, N.Y., Oct. 13-15. P. M. Heldt. Automotive Ind 45: 755-7 O 20 '21
Semi-annual meeting, Boston, Mass., Oct. 13-16. Elec Ry J 54:889-90 N 15 '19; Iron Age 104:1122-3 D 4 '19
Semi-annual meeting, Lake Mohonk, Ulster co., N.Y., Oct. 27-29. Mach 27:329-31 D '20; Iron Age 106:1205-7 N 4 '20
Semi-annual meeting, Ulster county, New York, Oct. 27-29. P. M. Heldt. Automotive Ind 43:901-4 N 4 '20

American general contractors association
Achievements. Pub Works 48:467 My 29 '20

American hardwood manufacturers' association
Hardwood men ask modification of injunction pending Supreme court's decision on appeal. Am Lumberman 2346:52-3 My 1 '20
Open competition plan hearing held. Am Lumberman 2339:45-9; 2340:45+; 2345:56+ Mr 13-20, Ap 24 '20
Open-price bureau and scheme to sustain price declared unlawful. Coal Age 17:710-13 Ap 8 '20
2d annual meeting, Memphis, Tenn., Dec. 16. Am Lumberman 2327:48-50+ D 20 '19

American independent petroleum association
Annual petroleum congress, Chicago. il Nat Pet N 12:42-50+ Mr 17 '20
Independent petroleum association opens its annual congress at Kansas City. Oil Paint & Drug Rep 99:9 sec 2 Mr 28 '21

American institute of accountants
Aims of the Institute. C. H. Nau. J Account 31:321-8 My '21
Historical sketch; present organization. C. H. Nau. J Account 31:103-9 F '21
Proceedings of the annual meeting held at Washington, District of Columbia, Sept. 21-22, 1920. J Account 30:275-86 O '20

American institute of architects
Architect and organization. G. Brown. Am Arch 117:393-7 Mr 31 '20
Architects and organization. Arch Forum 34: 76 F '21
Disciplinary procedure of the American institute of architects. H. W. Sellers. Eng N 84:677-80 Ap 1 '20
53d annual convention, Washington, D.C., May 5-7. Am Arch 117:601-10, 613, 633-46 My 19-26 '20; Arch Forum 32:179-82 My '20; Am Inst Arch J 8:220-7 Je '20
54th annual convention, Washington, D.C., May 11-13. Am Arch 119:573-9 My 25 '21; Arch Forum 34:153-4, 156 My '21
Question of state societies. il charts maps Am Inst Arch J 8:185-94 My '20
Standardization and the A.I.A. Am Arch 117: 578-80 My 12 '20
Synopsis of committee reports. Am Arch 117: 614-19 My 19 '20

Post-war committee
Architect and the Post-war committee. G. Brown. Am Arch 117:299-302 Mr 10 '20
Architects' movement to improve relations with the engineers and with the public. Heat & Ven 17:37-9 F '20
Chart of the organization of the Post-war committee on architectural practice. Am Inst Arch J 7:529 D '19
English opinion. J: Murray. Am Inst Arch J 7:538-9 D '19
Post-war committee—an American opinion. H: K. Holsman. Am Inst Arch J 8:60-2 F '20
Report on architectural practice at 53d annual convention. Am Arch 117:606-10, 613 My 19 '20
What did the Post-war committee accomplish? Am Inst Arch J 8:268-71 Jl '20

American institute of baking
1st annual report. Sci Am M 3:86 Ja '21

American institute of banking
Institute clearing house. R. B. Locke. Comm & Fin Chr 113:173-4 sec 2 O 29 '21
Report at American bankers' association. G. B. Perry. Comm & Fin Chr 111:142-3 sec 2 N 20 '20

American institute of chemical engineers
12th annual meeting, Savannah, Georgia, Dec. 2-6. Chem & Met Eng 21:660-2 N 26 '19
12th annual meeting, Savannah, Ga., Dec. 2-6. J. C. Olsen. J Ind & Eng Chem 12:85-6 Ja '20
12th semi-annual meeting, Montreal, June 26-July 5. Chem & Met Eng 23:49-52 Jl 14 '20
13th semi-annual meeting, Detroit, June 20-25. Chem & Met Eng 25:6-10 Jl 6 '21
13th winter meeting, New Orleans, Dec. 5-9. Chem & Met Eng 23:1198-1202 D 22 '20; J Ind & Eng Chem 13:89-90 Ja '21

American institute of chemistry (proposed)
American institute of chemistry. Chem Age 29:50, 95-6, 127-8 F-Ap '21
American institute of chemistry; some history of chemical organization in Great Britain and some comparisons. il Chem Age 29:301-4 Ag '21
Observations on the project and answers to the New Jersey chemical society's questionnaire. Chem Age 29:22-4 Ja '21
Question that will not down. Chem & Met Eng 24:193 F 2 '21; Discussion. 24:240-2 F 9 '21

American institute of electrical engineers
Annual meeting, New York, May 20. Am Inst E E J 40:531-2 Je '21
Discussion on the super power system for the Northeast Atlantic seaboard; symposium. Am Inst E E J 39:766-77 Ag '20; Abstract. Elec Ry J 55:435-8 F 28 '20
Electrical engineers institute elects officers. Elec R 78:877-8 My 28 '21
Meeting, Pittsburgh, Mar. 12. Elec Ry J 55: 597-600 Mr 20 '20
Midwinter convention, New York, Feb. 18-20. Elec W 75:486-92 F 28 '20; Elec Ry J 55:401 F 21 '20
9th midwinter convention, New York city. Elec Ry J 57:364 F 19 '21; Am Inst E E J 40:250-1 Mr '21; Power 53:366-7 Mr 1 '21
Progress of the Institute. C. Townley. Elec R 76:60 Ja 10 '20
Technical committee reports. Elec W 76:19-20 Jl 3 '20
36th annual convention, White Sulphur Springs, W. Va., June 29-July 2. Elec R 77:61-4 Jl 10 '20; Elec W 76:57-66 Jl 10 '20
37th annual convention, Salt Lake City, June 21-24. Elec W 77:1469-72; 78:7-13 Je 25-Jl 2 '21; J Elec 47:63-4 Jl 15 '21
356th meeting, New York, Dec. 12. Elec R 75:1023-4 D 20 '19

American institute of laundering
American institute of laundering. L. C. Breed. Ind Management 60:217 S '20

American institute of mining and metallurgical engineers
A.I.M.E. meeting will include three tours. Eng & Min J 112:423-4 S 10 '21

American institute of mining and metallurgical engineers—*Continued*
Annual banquet, Feb. 17. Eng & Min J 109: 496-503 F 21 '20
Annual fall meeting of Metals division, Columbus, Oct. 4-8. Iron Tr R 67:911-14 S 30 '20
Directory. Min & Met 161:(sec 2) 1-277 My '20
Early days of the institute. pors Min & Met 177:4-19 S '21
Engineering lifted from back room of blueprints to first order of national importance. H. Hoover. Min & Met 171:17-19 Mr '21
Engineers from country over visit anthracite region. R. D. Hall. il Coal Age 20:463-5, 503-4 S 22-29 '21
Engineers visit copper and iron ranges. R. D. Hall. il Coal Age 18:527-32, 575-81 S 9-16 '20
5th annual meeting of the Woman's auxiliary. Min & Met 171:23-7 Mr '21
Industrial organization session. T. T. Read. Eng & Min J 109:505 F 21 '20
Institute membership and professional status. Min & Sci P 122:248-9 F 19 '21
Institute of metals division meeting, New York, Feb. 15. Metal Ind 19:105-7 Mr '21
Institute publications. P. E. Barbour. Min & Met 177:23-4 S '21
Institute's part in the improvement of industrial relations. Min & Met 164:8-11 Ag '20
Lake Superior milling and smelting practice. Chem & Met Eng 23:365-7 S 1 '20
National meeting of Institute of metals division, New York, Feb. 17. Metal Ind 18:68-72 F '20; Eng & Min J 109:506-7 F 21 '20
Official institute reports for the year 1919. Min & Met 158:(sec 2) 1-16 F '20
121st meeting, New York city, Feb. 16-19. Min & Met 159:(sec 1) 9-31 Mr '20; Chem & Met Eng 22:343-8, 391-7 F 25-Mr 3 '20; Iron Age 105:609-11 F 26 '20; Iron Tr R 66:623-6 F 26 '20
122d meeting, Lake Superior region, Aug. 20-Sept. 3. Min & Met 166:6-11 O '20; Eng & Min J 110:446-56 S 4 '20; Mech Eng 42: 600 O '20
123d meeting, New York, Feb. 14-17. Chem & Met Eng 24:329-32 F 23 '21; Coal Age 19:405-7, 457-8 Mr 3-10 '21; Iron Age 107: 503-5 F 24 '21; Iron Tr R 68:544-6 F 24 '21; Min & Met 171:5-16 Mr '21; Eng & Min J 111:340-51 F 19 '21
124th meeting, Wilkes-Barre, Pa., Sept. 12-15. Eng & Min J 112:485-91 S 24 '21
Semi-centennial meeting, Wilkes-Barre, Pa., Sept. 12-15. H. A. Megraw. il Min & Met 178:15-23 O '21
Sessions on oil and gas, New York, Feb. 16. Eng & Min J 109:521-3 F 21 '20

Petroleum section

1st independent meeting, St Louis, Sept. 21-22. Eng & Min J 110:685-6 O 2 '20

American institute of textile chemists and colorists
Organization. Chem Age 29:434 O '21

American international corporation
Report of the president to the stockholders at the annual meeting, April 7, 1920. Comm & Fin Chr 110:1319-21 Mr 27 '20
Report of the president to the stockholders at the annual meeting, April 6, 1921. Comm & Fin Chr 112:1159-61 Mr 19 '21

American iron and steel institute
Address of head of great Creusot works. E. Schneider. Iron Age 104:1064 N 27 '19
16th general meeting, New York, Oct. 24. Chem & Met Eng 21:545-7 O 29 '19; Iron Age 104:1132-4 D 4 '19
17th general meeting, New York, May 28. Iron Age 105:1579-98 Je 3 '20; Iron Tr R 66: 1598-1616 Je 3 '20
18th general meeting, New York. Iron Age 106:1103-24 O 28 '20; Iron Tr R 67:1190-1 O 28 '20; Chem & Met Eng 23:822-4 O 27 '20; Blast F & Steel Pl 8:587 N '20; Mech Eng 42:724-5 D '20
19th general meeting, New York, May 27. Iron Age 107:1455-60 Je 2 '21; Iron Tr R 68:1510-11, 1514-15 Je 2 '21; Blast F & Steel Pl 9: 343-4 Je '21

American iron, steel and heavy hardware association
12th annual convention, Montreal, June 7-9. Iron Age 107:1619-20+ Je 16 '21; Iron Tr R 68:1669 Je 16 '21

American leather chemists association
18th annual meeting, Atlantic City, June 9-11. Chem & Met Eng 24:1094-6 Je 22 '21

American locomotive company
American locomotive in 1921-22. S. Patterson. Annalist 18:345 O 10 '21
Annual report, 1920. Ry Age 70:573 Mr 11 '21

American manufacturers' export association
Annual meeting, New York city, Oct. 14. Am Mach 53:788h-i O 21 '20

American medical association
Record of engineers suggested by doctors' system; Association's method of keeping in touch with history and practice of 160,000 physicians. E. Judson. Eng N 84:875-6 Ap 29 '20

American meteorological society
New society of interest to engineers. R. E. Horton. Eng N 84:927 My 6 '20

American mining congress
Mining men discuss standardization plans. R. D. Hall. Coal Age 18:1109, 1143-6 N 25-D 2 '20
22d annual convention, St Louis, Mo., Nov. 17-21. Eng & Min J 108:814-22 N 22 '19
22d annual convention, St Louis, Nov. 17. R. D. Hall. Coal Age 16:797-802 N 13 '19
23d annual convention at Denver; with text of resolutions. Eng & Min J 110:1028-43 N 27 '20
24th annual meeting, Chicago. Eng & Min J 112:703-6 O 29 '21
24th annual session, Chicago, Oct. 17-22. C. E. Lesher. Coal Age 20:687-91 O 27 '21

American newspaper publishers association
Newsprint and labor two most important topics at A.N.P.A. 34th annual convention, New York, April 21-23. Ptr Ink 111:17-20 Ap 29 '20
35th annual meeting, New York, April 27-29. Ptr Ink 115:33-6+ My 5 '21

Bureau of advertising

Bureau of advertising's most useful year. Ptr Ink 115:73-4 Ap 28 '21
Newspapers develop new business through Bureau of advertising. Ptr Ink 111:35-6 Ap 22 '20

American oil chemists' society
12th annual meeting, Chicago, May 16-17. Chem & Met Eng 24:957-9 Je 1 '21

American order of steam engineers
35th annual convention in conjunction with the American supplymen's association, Allentown, Pa., June 6. Power 53:1030 Je 21 '21

American paper and pulp association
43d annual convention, New York, April 12-15. Paper 26:254+ Ap 21 '20
44th annual convention, New York. Paper 28: 34-48 Ap 20 '21
Developments in the A.P.P.A. in 1920. H. P. Baker. Paper 28:42-5+ Ap 20 '21

American petroleum institute
Annual meeting, Washington, D.C., Nov. 17-19. Eng & Min J 110:1051 N 27 '20
Annual meeting, Washington, D.C., Nov. 17-19. C. F. Clarkson. Soc Auto Eng J 7:500-3 D '20
Cheerful view of gasoline situation at Petroleum institute. J. C. Dalton. Automotive Ind 43:1073-6 N 25 '20
Faith oil problems will be conquered, features Institute meeting. Nat Pet N 12:25-6 N 24 '20
Help the small man in the oil business. J: F. Lucey. Nat Pet N 12:33+ D 29 '20

American petroleum institute—*Continued*
Plan for financing work of American petroleum institute. Nat Pet N 12:36+ N 10 '20
Relation of Institute to the industry. Nat Pet N 12:29 O 20; 29 O 27; 31 N 3 '20

American photoengravers' association
24th annual convention, Cleveland, June 17-19. Inland Ptr 65:473-4 Jl '20

American public health association
47th annual meeting, New Orleans, Oct. 27-30. Eng N 83:882-3 N 13 '19

American pulp and paper mill superintendent's association
Increased production urged at Superintendents' convention, Buffalo, June 4-5. Paper 26:11-12+ Je 9 '20
Meeting, Glens Falls, Sept. 15. Paper 27:9-10 S 22 '20
3d annual convention, New York, June 3-5. Paper 28:9-11 Je 8 '21

American railroad association
A.R.A. organizes joint committee on automatic train control. Ry Age 69:738 O 29 '20
Annual meeting, Chicago, Nov. 17. Ry Age 69:893, 923-7 N 19-26 '20; Ry R 67:767-9 N 20 '20
Commission on car service and troop movement bureau. Ry R 66:424-5 Mr 13 '20
Committees present progress reports at meeting in Chicago, Nov. 18-19. Ry Age 67:822-4 O 24 '19
R. H. Aishton remains president of the A. R. A. Ry Age 68:705-11 Mr 5 '20
See also Freight claim prevention congress

Car service division
Reorganization of car service division, A.R.A. Ry Age 71:253-4 Ag 6 '21

Equipment painting section
1st convention, Boston, Sept. 14. Ry Age 69:529-30 S 24 '20; Ry Mech Eng 94:641-52 O '20

Freight claim agents' section
Convention. Atlantic City, June 17-18. Ry R 66:1108 Je 26 '20
30th annual convention, Chicago, May 17-19. Ry Age 70:1231-2 My 27 '21

Freight station section
1st meeting, Chicago, June 21-23. Ry Age 71:27-8 Jl 2 '21

Mechanical division
2d annual convention, Atlantic City, N.J., June 9-16. Ry R 66:965-8, 1027-49 Je 12-19 '20; Ry Age 68:1629-44, 1737-54, 1793-1810, 1841-57, 1881-1910 Je 10, 12, 15-17 '20

Medical and surgical section
1st annual meeting, Boston, June 3-4. Ry Age 70:1341 Je 10 '21

Perishable freight division
Organization. Ry R 67:103 Jl 17 '20

Purchases and stores division
1st annual meeting, Atlantic City, N.J., June 14-16. Ry R 66:1083-93 Je 26 '20; Ry Age 68:1813-22, 1859-74, 1911-12 Je 15-17 '20
Annual meeting, Chicago, June 9-11. Ry R 68:937-42 Je 18 '21; Ry Age 70:1355-62, 1397-8 Je 10-17 '21; Am Mach 54:1104e Je 23 '21

Safety section
Safety section of A.R.A. holds first meeting. W: S. Wollner. Ry Age 71:629 O 1 '21

Signal section
Annual meeting, Chicago, June 6-8. Ry Age 70:1329-32 Je 10 '21; Ry R 68:906-9 Je 11 '21
4th meeting, New York, Dec. 2-3. Ry Age 67:1057-8 N 28 '19
Meeting, Chicago, March 15-16. Ry R 66:485-7 Mr 20 '20
Meeting, New York city, Dec. 2-3. Ry Age 69:1015-16 D 10 '20
Signal engineers' 25th annual convention, Alexandria Bay, N.Y., July 14-16. Ry Age 69:147-8 Jl 23 '20

Telegraph and telephone section
2d meeting, Chicago, Dec. 3-5. Ry Age 67:1233-5 D 26 '19
Meeting, Winnipeg, Manitoba, Sept. 22-24. Ry Age 69:571-2 O 1 '20
Annual meeting, Cleveland, Ohio, Sept. 21-23. Ry Age 71:585-7 S 24 '21

American railway bridge and building association
29th annual convention, Cleveland, Oct. 21-23. Ry Age 67:977-82 N 14 '19
30th annual convention, Atlanta, Ga., Oct. 26-28. Ry Age 69:759-64, 803-4 O 29-N 5 '20; Ry R 67:702-3 N 6 '20
31st annual convention, New York, Oct. 18-20. Ry R 69:525-32 O 22 '21; Eng N 87:706 O 27 '21; Ry Age 71:781-8 O 22 '21

American railway development association
Annual meeting, New York city, May 11-13. Ry Age 70:1129-30, 1171-3 My 13-20 '21

American railway engineering association
21st annual convention, Chicago, Mar. 16-18. Elec Ry J 55:652-3, 689, 695-8 Mr 27-Ap 3 '20; Eng N 84:613-16, 643-4 Mr 25 '20; Ry R 66:475-7, 497-9 Mr 20 '20
22d annual convention, Chicago, March 15-17. Ry R 68:435-49 Mr 19 '21; Eng N 86:515-18 Mr 24 '21; Elec Ry J 57:631-6 Ap 2 '21

American railway express company
Express company consolidation. Ry Age 69:110 Jl 16 '20
Express consolidation approved by commission; combination of companies into American railway express. Ry Age 69:1119-20 D 24 '20
Express contract approved. Ry Age 69:1154-5 D 31 '20
Express situation; abstracts. G: C. Taylor. Ry R 66:740-1 My 1 '20; Ry Age 68:1288-9 Ap 30 '20
How the American railway express co. secures greater service from its motor trucks. B. K. Rhoads. Eng & Contr 52:340-1 S 17 '19
Keying up the inside staff to its sales responsibility. E. T. Tandy. Ptr Ink 114:3-4+ Mr 10 '21
Labor board raises wages of railway expressmen. Ry R 67:236-8 Ag 14 '20; Same. Ry Age 69:271-2 Ag 13 '20
Railroads and the express service. S. W. Todd. il Ry R 66:548-9 Ap 3 '20
Report for fiscal year ending Dec. 31 1920. Comm & Fin Chr 113:1979-80 N 5 '21

American railway tool foremen's association
10th annual convention, Chicago, Sept. 1-3. Ry Age 69:442 S 10 '20; Ry R 67:386-7 S 11 '20; Ry Mech Eng 94:653-9 O '20

American relief administration
American relief administration's food drafts for engineers. H. Hoover. map Min & Met 167:9-11 N '20
Food-draft system of the American relief administration. E. Rickard. Min & Sci P 121:739-40 N 20 '20

American road builders' association
Annual meeting, New York, Nov. 7. Good Roads n s 18:217-18 N 12 '19
17th annual convention, Louisville, Ky., Feb. 9-13. Good Roads n s 19:87-90+ F 18 '20
18th annual convention, Chicago, Feb. 9-12. Good Roads n s 21:93-6+ F 16 '21; Eng N 86:315-16 F 17 '21
History of association, executive officers and program for 17th annual convention. Good Roads n s 19:63-7 F 4 '20
Organization and history. pors Good Roads n s 21:65-70 F 2 '21
Presidential address at annual meeting, Nov. 7. G: P. Coleman. Good Roads n s 18:213-14 N 12 '19

American-Scandinavian foundation fellowships
Twenty fellowships will be awarded to American students. Chem & Met Eng 22:485 Mr 17 '20

American short line railroad association
New department of Short line association negotiates larger divisions. Ry Age 69:967-8 D 3 '20
Short line association increases activities. Ry Age 70:125-6 Ja 7 '21
Special meeting, Washington, April 15-16. Ry Age 68:1237-49 Ap 23 '20

American smelting and refining company
American smelting directors reply to Karl Eilers. Eng & Min J 111:236-7 Ja 29 '21
Control of American smelting & refining co. assailed by Karl Eilers. Eng & Min J 110: 1229-30 D 25 '20
Control of American smelting & refining co. defended. Eng & Min J 111:28-30 Ja 1 '21
Eilers defeated; Guggenheims win A. S. & R. election. Eng & Min J 111:637 Ap 9 '21
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Concrete foundry floors. H. C. Boyden. Iron Age 107:130 Ja 13 '21; Same. Eng & Contr 55:84-5 Ja 26 '21
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Fan furnace heating of a large foundry. il Sheet Metal Worker 12:461-3 Ag 5 '21
Three types of fan blast heating. il diag Metal Work 93:638-40 My 21 '20

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Builds shop where roads converge; steel foundry at McKeesport, Pa. il Foundry 48:725-31 S 15 '20
Changes make casting plant efficient. G. H. Manlove. il plan Iron Tr R 69:293-5+ Ag 4 '21
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Transportation is factor in increasing output of steel foundry. H. E. Diller. il plan Iron Tr R 67:774-9+ S 16 '20

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Effective lighting for core room. H. S. Rich. Elec W 77:884-5 Ap 16 '21
Proper lighting means efficiency. J. Brakes, jr. diag Iron Tr R 67:1061-2+ O 14 '20

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Safety devices and measures

Co-operative methods for preventing foundry accidents. R. A. Salisbury. Eng & Ind Management 6:151-2 Ag 11 '21

How to sell the shop safety idea. il Foundry 49:822-3 O 15 '21

Personal element in a safety program for the foundry. M. F. Gartland. Chem & Met Eng 22:323-5 F 18 '20

Plants vie for trophy in safety work. il Iron Tr R 68:285 Ja 27 '21

Protects workers in converter shop. H. L. Campbell. il Foundry 48:371+ My 1 '20; Same. Iron Tr R 66:1548-9 My 27 '20

Safe foundry practice. The travelers insurance company, Hartford, Conn. '20

Safe shoes reduce hot-metal burns. il Foundry 49:51-3 Ja 15 '21

Safety campaigns apply to foundries. Foundry 49:779-80 O 1 '21

Safety prize statuette to be awarded to the plant of the Carnegie steel co. making the best record in 1921. il Iron Age 107:205 Ja 20 '21

Safety work must be well planned. R. A. Salisbury. Foundry 48:895-6 N 15 '20; Same. Iron Age 106:1268-9 N 11 '20

Standards

Steel foundries need standard patterns. K. V. Wheeler. Foundry 48:963-4 D 1 '20

Statistics

Growth marks reconstruction era; number of foundries in the United States and Canada. maps Foundry 48:853-8 N 1 '20; Same cond. Iron Tr R 67:1336-8 N 11 '20

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Accounting for a cast iron pipe foundry. A. K. Fischer. J Account 29:180-90 Mr '20

Advantages of uniformity in costs. C. E. Knoeppel. Foundry 48:133-5 F 15 '20

Changing losses to profits in a New England casting plant. H. R. Simonds. il Iron Tr R 68:1237-43 My 5 '21

Chart assists salesmen in setting prices. Foundry 49:62-3 Ja 15 '21; Same. Iron Tr R 68:282 Ja 27 '21

Estimates should parallel cost-keeping method. Automotive Ind 41:930-1 N 6 '19

Production, cost and profit control. W. G. Scott. Metal Ind 17:514-16 D '19

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Standard foundry cost system. Foundry 48: 407-13, 438-42, 474-80 My 15-Je 15 '20

This helps us to secure contracts. B. Fleeger. Factory 27:623-4 N '21

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Cost factor in foundry production. J. P. Glynn. Mach 28:94 O '21

Cost of synthetic gray iron low. R. C. Gosrow. Foundry 49:242-3 Mr 15 '21; Correction. 49:311 Ap 15 '21

Costs show further increase. Foundry 48:485 Je 15 '20

Cuts cost of iron mixture with scrap. H. E. Diller. Foundry 49:511 Jl 1 '21

Electric melting in an oil furnace. W: J. Reardon. diags Metal Ind 18:207-10 My '20

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Foundry flasks

Adjustable flask guide is easily applied. il Foundry 49:329 Ap 15 '21

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Fabricating steel foundry flasks. il Iron Tr R 67:305-8 Jl 29 '20; Same. Foundry 48:631-4 Ag 15 '20

Foundry flask stand of improved design. H. J. Bayly. Foundry 49:554-5 Jl 15 '21

How a long steel flask is assembled. G: W. Childs. diags Foundry 48:923-4 N 15 '20

How rolled steel flasks are made. il Foundry 49:691-5 S 1 '21; Same. Iron Tr R 69:881-5 O 6 '21

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Advertising

Advertising to raise the standards of an industry; the American malleable castings association. J: P. Wilder. Ptr Ink 117:53-4+ O 20 '21

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Drying 100-ton ladles. A. E. Dynan. il Iron Age 107:394 F 10 '21

Inventor installs his own devices; suspended-type molding machines and uses trucks and pouring device. il Foundry 49:103 F 1 '21

Ladle nozzles made in the core room. il Foundry 48:199+ Mr 1 '20

One-man ladle for the efficient foundry. il Sci Am 123:600 D 11 '20

Tipping gear for a 30-ton ladle. H. Scott. diag Foundry 49:266a Ap 1 '21

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Adaptable moulding and core-making machines. il diags plans Engineering 111:164-6 F 11 '21

Coremaking machines. W: H. Parry. Metal Ind 19:107 Mr '21

Testing machines as related to the foundry. T. Y. Olsen. il Mach 53:525-30 S 16 '20

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Woodison compressed air core machine. il Iron Age 106:1472 D 2 '20; Metal Ind 18: 569 D '20

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Exhibitions

Equipment shows trend of trade. il Foundry 48:807-14 O 15 '20; Iron Tr R 67:1007-11 O 7 '20

Exhibition of the American foundrymen's association, and some of its features. Iron Age 106:993-5 O 14 '20

Foundry show in Belgium, Sept. 18 to Oct. 10. Iron Tr R 69:1094 O 27 '21

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American malleable cast iron. H. A. Schwartz. il charts Iron Tr R 68:1175-80 Ap 28 '21

Application of time study in the foundry. J. F. Blank. Iron Age 108:958-9 O 13 '21

Apply premium system to foundries. H. C. Barker. Foundry 49:611-12 Ag 1 '21

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Chemist controls all iron mixtures. il Foundry 49:59-62 Ja 15 '21

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Cultivate idea men in foundries. R. R. Clarke. diags plans Foundry 48:384-8 My 15 '20

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Importance of inspecting castings. Metal Ind 18:120 Mr '20

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Increasing production to meet shorter day. P. R. Ramp. Iron Age 104:1261-3 D 18 '19
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Advocates a school for foundrymen. H. R. Atwater. Foundry 48:870-1 N 1 '20

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Big room for you to get a profit. il Plumber 94:527-8+ D 3 '20

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Good work brings good business. il plan Plumber 95:95-6 F 25 '21
Ground floor shops promote efficiency. G: Haig. il plan Dom Eng 91:53-4 Ap 10 '20
I think good window display pays. D. H. Kelly. il Plumber 94:557-8 D 17 '20
It pays to be on Main street. M. E. Crain. il Dom Eng 92:482-4 S 4 '20
Make your Christmas window an asset. il Dom Eng 93:560 D 18 '20
Make your place of business a landmark. il plan Dom Eng 90:376-8 F 21 '20
Many excellent features in new jobbing house; plant of National plumbing & heating supply co., Chicago. il plan Dom Eng 94:596-9 Mr 19 '21
Modern showroom develops profitable business. C: Rosemont. il Dom Eng 91:282-4 My 15 '20
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Prosperous business based on good management. il plans Dom Eng 96:554-5 S 24 '21
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Snappy results from fine window display. M. T. Stevens. il Metal Work 93:26-7 Ja 2 '20
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Washburn-Crosby slogan goes double in Twin Cities. il Dom Eng 94:82-4 Ja 8 '21
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Be a 100 per cent plumbing and heating contractor first. O. C. Small. Dom Eng 94: 188-9 Ja 22 '21
Dauntless plumbing co. sells electrical specialties profitably. T. P. Wallace. il Dom Eng 92:2-4 Jl 3 '20
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How to sell electrical equipment to the farmer. C. H. Griffith. Dom Eng 96:205-6 Jl 30 '21
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Better methods make bigger money for Detroit heating concern; Johnson, Larsen & co. il diag Dom Eng 94:63-5 Ja 8 '21
Bins, benches and racks. H. Richards. il diags Dom Eng 91:55-6+ Ap 10 '20
Equipment of shop and office for efficiency. W: Hutton. il diag Dom Eng 91:48-50 Ap 10 '20

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Ground floor shops promote efficiency. G: Haig. il plan Dom Eng 91:53-4 Ap 10 '20
Well arranged plumbing shop of Fred Finder, Champaign, Ill. diags plan Dom Eng 91:487-8 Je 12 '20

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Prices

Future of prices. Dom Eng 93:57-8+, 115+ O 9-16 '20

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Getting new business from new home owners. R. Falconer. Dom Eng 96:113-14 Jl 16 '21
Getting the most out of your business. il plan Dom Eng 96:236-7 Ag 6 '21
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Give the overhead an overhauling. Metal Work 92:552-4 N 7 '19
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How to meet mail order house competition; prize letters. Dom Eng 93:102-4 O 16 '20
Importance of collections. W. Gustin. Dom Eng 89:623-4 D 27 '19
Important feature in plumbing specifications. Metal Work 92:725-6 D 19 '19
Interest the farmer in your business by showing an interest in his. il Dom Eng 96: 510-12 S 17 '21
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Keep the customer informed. R. Falconer. Dom Eng 92:113-14 Jl 17 '20
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Merchandising the water system. H. J. Meyers. il Dom Eng 94:287-8 F 5 '21
Methods that build business. il plan Sanitary & Heat Eng 96:219-20+ O 7 '21
Modern home of an Indiana farmer. il Dom Eng 90:428-9 F 28 '20
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Path that leads to money in the bank. Metal Work 94:329-31 S 10 '20; (cont. in) Sheet Metal Worker 11:318-19 O 29 '20
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Plumbers should sell water supply systems. H. R. Williams. Dom Eng 92:376 Ag 21 '20
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Size up your sales possibilities. J: D. Nelson. Dom Eng 95:162-3 Ap 23 '21
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They are going to buy bathroom accessories—why not from you? il Plumber 95:165-6 Mr 25 '21
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Material you lose adds no profit. S. E. Nolan. Plumber 95:233+ Ap 22 '21
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